

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Neon Hugib Examiner #: 7853 Date: 2/15/03  
Art Unit: 1644 Phone Number 301-484 Serial Number: 10/071,247  
Mail Box and Bldg/Room Location: \_\_\_\_\_ Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and compare with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

*Jan, please search Claims 9-20, particularly Claims 11-12 & 14*

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\*\*\*\*\*  
STAFF USE ONLYSearcher: OmSearcher Phone #: 4498

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: 3/5/03Date Completed: 3/8/03

Searcher Prep &amp; Review Time: \_\_\_\_\_

Clerical Prep Time: 30Online Time: +100

## Type of Search

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) ✓Structure (#) ✓

Bibliographic \_\_\_\_\_

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

## Vendors and cost where applicable

STN ✓

Dialog \_\_\_\_\_

Questel/Orbit \_\_\_\_\_

Dr.Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Other (specify) \_\_\_\_\_

=> fil hcaplus

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FILE COVERS 1907 - 8 Mar 2003 VOL 138 ISS 11  
FILE LAST UPDATED: 7 Mar 2003 (20030307/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all hitstr tot

L147 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2003 ACS  
AN 2002:51893 HCAPLUS  
DN 136:123598  
TI Production and use of novel **peptide**-based agents for use with bi-specific **antibodies**  
IN Hansen, Hans J.; **Griffiths, Gary L.**; Leung, Shui-on; McBride, William J.; Qu, Zhengxing  
PA USA  
SO U.S. Pat. Appl. Publ., 37 pp., Cont.-in-part of U. S. Ser. No. 337,756.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM A61K051-00  
ICS A61K039-40; A61K039-42; A61K039-395; C12Q001-70  
NCL 424001490  
CC 63-5 (Pharmaceuticals)  
Section cross-reference(s): 1, 8, 9, 15  
FAN.CNT 14

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002006379	A1	20020117	US 2001-823746	20010403
	WO 2002082041	A2	20021017	WO 2002-US10235	20020403
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
PRAI	US 1998-90142P	P	19980622		
	US 1998-104156P	P	19981014		
	US 1999-337756	A2	19990622		
	US 2001-823746	A	20010403		
AB	The present invention relates to a bi-specific <b>antibody</b> or				

**antibody** fragment having at least one arm that is reactive against a targeted tissue and at least one other arm that is reactive against a linker moiety. The linker moiety encompasses a **hapten** to which **antibodies** have been **prepd.** The antigenic linker is conjugated to one or more therapeutic or diagnostic agents or enzymes. The invention provides constructs and methods for producing the bispecific **antibodies** or **antibody** fragments, as well as methods for using them.

- ST bispecific **antibody peptide** drug targeting diagnosis sequence
- IT Antigens
  - RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
  - (CSAp (colon-specific antigen-p); **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT **Haptens**
  - RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
  - (HSG (histamine succinyl glycine); **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT **Proteins**
  - RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
  - (PAP (pokeweed antiviral **protein**); **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT Diagnosis
  - (agents; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT **Antibodies**
  - RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
  - (bispecific; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT **Antibodies**
  - RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
  - (chimeric; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT Toxins
  - RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
  - (diphtheria; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT Gamma ray
  - (emission of; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT Toxins
  - RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
  - (endotoxins, Pseudomonas; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT Toxins
  - RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
  - (enterotoxin A; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT Toxins
  - RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
  - (exotoxins, Pseudomonas; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT Immunoglobulins
  - RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
  - (fragments, bispecific; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)
- IT NMR (nuclear magnetic resonance)

(high-field; **peptide**-based diagnostic and therapeutic agents  
for use with bi-specific **antibodies**)

IT Parvo-like virus  
(human serum; **peptide**-based diagnostic and therapeutic agents  
for use with bi-specific **antibodies**)

IT **Antibodies**  
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);  
USES (Uses)  
(humanized; **peptide**-based diagnostic and therapeutic agents  
for use with bi-specific **antibodies**)

IT Mammalia  
(imaging in; **peptide**-based diagnostic and therapeutic agents  
for use with bi-specific **antibodies**)

IT Spirochaetales  
(of Lyme disease; **peptide**-based diagnostic and therapeutic  
agents for use with bi-specific **antibodies**)

IT Virus  
(pathogenic; **peptide**-based diagnostic and therapeutic agents  
for use with bi-specific **antibodies**)

IT Adenoviridae  
Antibacterial agents  
Antitumor agents  
Antiviral agents  
Bluetongue virus  
Brucella melitensis  
Chelating agents  
Cytomegalovirus  
Dengue virus  
Drug delivery systems  
Escherichia coli  
Fast atom bombardment mass spectrometry  
Feline leukemia virus  
Fungicides  
Hepatitis B virus  
Herpesviridae  
Human T-lymphotropic virus  
Human herpesvirus 3  
Human herpesvirus 4  
Human immunodeficiency virus  
Human poliovirus  
Imaging  
Imaging agents  
Influenza virus  
Legionella pneumophila  
Lymphocytic choriomeningitis virus  
Measles virus  
Mouse mammary tumor virus  
Mumps virus  
Murine leukemia virus  
Mycobacterium leprae  
Mycobacterium tuberculosis  
Neisseria gonorrhoeae  
Neisseria meningitidis  
Ovary  
Parasite  
Parasiticides  
Parathyroid gland  
Pathogen  
Pathogenic bacteria  
Photodynamic therapy  
Photosensitizers (pharmaceutical)  
**Positron-emission tomography**  
**Protein sequences**

Pseudomonas aeruginosa  
 Rabies virus  
 Reoviridae  
 Respiratory syncytial virus  
 Rubella virus  
 Sendai virus  
 Simian virus 40  
 Sindbis virus  
 Spleen  
 Streptococcus agalactiae  
 Streptococcus pneumoniae  
 Streptococcus pyogenes  
 Thymus gland  
 Treponema pallidum  
 Vesicular stomatitis virus  
 cDNA sequences  
     (peptide-based diagnostic and therapeutic agents for use with  
     bi-specific antibodies)  
 IT Fusion proteins (chimeric proteins)  
     RL: BPN (Biosynthetic preparation); DGN (Diagnostic use); THU (Therapeutic  
     use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
     (peptide-based diagnostic and therapeutic agents for use with  
     bi-specific antibodies)  
 IT Carcinoembryonic antigen  
     Enzymes, biological studies  
     Radionuclides, biological studies  
     RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);  
     USES (Uses)  
     (peptide-based diagnostic and therapeutic agents for use with  
     bi-specific antibodies)  
 IT Abrins  
     Ricins  
     Toxins  
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
     (peptide-based diagnostic and therapeutic agents for use with  
     bi-specific antibodies)  
 IT Drug delivery systems  
     (prodrugs; peptide-based diagnostic and therapeutic agents  
     for use with bi-specific antibodies)  
 IT HPLC  
     (size-exclusion; peptide-based diagnostic and therapeutic  
     agents for use with bi-specific antibodies)  
 IT Lyme disease  
     (spirochetes; peptide-based diagnostic and therapeutic agents  
     for use with bi-specific antibodies)  
 IT Drug delivery systems  
     (targeted; peptide-based diagnostic and therapeutic agents  
     for use with bi-specific antibodies)  
 IT Neoplasm  
     (targeting of; peptide-based diagnostic and therapeutic  
     agents for use with bi-specific antibodies)  
 IT Toxins  
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
     (tetanus; peptide-based diagnostic and therapeutic agents for  
     use with bi-specific antibodies)  
 IT Human  
     (tumor cell lines; peptide-based diagnostic and therapeutic  
     agents for use with bi-specific antibodies)  
 IT Antigens  
     RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);  
     USES (Uses)  
     (tumor-specific antigens; peptide-based diagnostic and  
     therapeutic agents for use with bi-specific antibodies)

IT Haemophilus influenzae  
(type b; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)

IT Fungi  
(zoonopathogenic; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)

IT 192382-42-6D, Histamine succinyl glycine, conjugates  
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(HSG; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)

IT 12585-85-2, Positron  
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(emission of; **peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)

IT 389617-27-0DP, triazacyclononanetriacetic acid thiol-contg. conjugates  
389617-29-2DP, triazacyclononanetriacetic acid thiol-contg. conjugates  
RL: DGN (Diagnostic use); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(**peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)

IT 391267-27-9P, IMP 241 391267-28-0P, IMP 237 391267-29-1P, IMP 243  
RL: DGN (Diagnostic use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(**peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)

IT 7439-89-6, Iron, biological studies 7439-96-5, Manganese, biological studies 7440-54-2, Gadolinium, biological studies 10043-66-0, Iodine 131, biological studies 10098-91-6, Yttrium 90, biological studies 13967-65-2, Holmium 166, biological studies 13981-25-4, Copper 64, biological studies 13981-27-6, Zirconium 89, biological studies 13981-56-1, Fluorine 18, biological studies 14093-04-0, Iron 52, biological studies 14119-09-6, Gallium 67, biological studies 14133-76-7, Technetium 99, biological studies 14158-30-6, Iodine 124, biological studies 14158-31-7, Iodine 125, biological studies 14191-64-1, Praseodymium 142, biological studies 14265-75-9, Lutetium 177, biological studies 14265-85-1, Actinium 225, biological studies 14276-53-0, Copper 62, biological studies 14378-26-8, Rhenium 188, biological studies 14391-19-6, Terbium 161, biological studies 14391-96-9, Scandium 47, biological studies 14596-37-3, Phosphorus 32, biological studies 14798-12-0, Boron 10, biological studies 14809-53-1, Yttrium 86, biological studies 14809-55-3, Technetium 94, biological studies 14913-49-6, Bismuth 212, biological studies 14998-63-1, Rhenium 186, biological studies 15092-94-1, Lead 212, biological studies 15623-45-7, Radium 223, biological studies 15715-08-9, Iodine 123, biological studies 15749-66-3, Phosphorus 33, biological studies 15750-15-9, Indium 111, biological studies 15755-39-2, Astatine 211, biological studies 15757-14-9, Gallium 68, biological studies 15757-86-5, Copper 67, biological studies 15760-04-0, Silver 111, biological studies 15765-78-3, Rhenium 189, biological studies 15766-00-4, Samarium 153, biological studies 15776-20-2, Bismuth 213, biological studies 15840-01-4, Dysprosium 166, biological studies 129497-78-5, BPD-MA 134307-90-7 246252-04-0, Lutetium 284041-10-7, SnET2  
RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(**peptide**-based diagnostic and therapeutic agents for use with bi-specific **antibodies**)

IT 50-44-2, 6-Mercaptopurine 59-05-2, Methotrexate 9001-99-4, Ribonuclease 9003-98-9, Dnase I 23214-92-8, Doxorubicin 23214-92-8D, Doxorubicin, glucuronide deriv. 33419-42-0, Etoposide 75037-46-6,

Gelonin 86639-52-3, Sn38 92137-84-3, Epirubicin glucuronide  
100007-55-4, Etoposide glucuronide 100286-90-6, Cpt-11 117091-64-2,  
Etoposide phosphate 229314-81-2

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(**peptide**-based diagnostic and therapeutic agents for use with  
bi-specific **antibodies**)

IT 390884-46-5 390884-47-6 390884-48-7 390884-49-8 390884-50-1  
390884-51-2 390884-52-3 390884-53-4 390884-54-5 390884-55-6  
390884-56-7 390884-57-8 390884-58-9 390884-59-0

RL: PRP (Properties)  
(unclaimed sequence; prodn. and use of novel **peptide**-based  
agents for use with bi-specific **antibodies**)

IT 7439-89-6, Iron, biological studies 7439-96-5,  
Manganese, biological studies 7440-54-2, Gadolinium, biological  
studies 13981-56-1, **Fluorine 18**, biological  
studies

RL: DGN (Diagnostic use); THU (Therapeutic use); BIOL (Biological study);  
USES (Uses)  
(**peptide**-based diagnostic and therapeutic agents for use with  
bi-specific **antibodies**)

RN 7439-89-6 HCAPLUS  
CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7439-96-5 HCAPLUS  
CN Manganese (8CI, 9CI) (CA INDEX NAME)

Mn

RN 7440-54-2 HCAPLUS  
CN Gadolinium (8CI, 9CI) (CA INDEX NAME)

Gd

RN 13981-56-1 HCAPLUS  
CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L147 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2003 ACS  
AN 2000:176017 HCAPLUS  
DN 132:219218  
TI Diagnosis of multidrug resistance in cancer and infectious lesions using  
immunoconjugates  
IN Goldenberg, David M.  
PA **Immunomedics, Inc., USA**  
SO PCT Int. Appl., 40 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC G01N033-53  
CC 9-10 (Biochemical Methods)  
Section cross-reference(s): 8, 14, 15

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000014537	A2	20000316	WO 1999-US20017	19990901
	WO 2000014537	A3	20000720		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GD, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9957991	A1	20000327	AU 1999-57991	19990901
PRAI	US 1998-99304P	P	19980904		
	US 1998-99304	P	19980904		
	WO 1999-US20017	W	19990901		
AB	Immunoconjugates of a diagnostic agent and an <b>antibody</b> component that binds an epitope of a multidrug transporter <b>protein</b> are disclosed. These immunoconjugates are used in in vivo diagnostic methods to det. whether the failure of traditional chemotherapy is due to the presence of multidrug resistant tumor cells, multidrug resistant HIV-infected cells or multidrug resistant infectious agents.				
ST	multidrug resistance diagnosis cancer infection immunoconjugate; <b>antibody</b> conjugate diagnostic agent multidrug transporter <b>protein</b>				
IT	<b>Proteins, specific or class</b> RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses) (AcrE, <b>antibody</b> conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)				
IT	<b>Proteins, specific or class</b> RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses) (ActII, <b>antibody</b> conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)				
IT	<b>Proteins, specific or class</b> RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses) (Bcr, <b>antibody</b> conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)				
IT	<b>Proteins, specific or class</b> RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses) (Bmr, <b>antibody</b> conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)				
IT	<b>Proteins, specific or class</b> RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses) (CmlA, <b>antibody</b> conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)				
IT	<b>Proteins, specific or class</b> RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses) (DrrA, <b>antibody</b> conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)				

- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (DrrB, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (EmrB, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (EmrD, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (EnvD, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (MexB, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (Mmr, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (MsrA, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (MvrC, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (NorA, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (OprK, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
 RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)

- (Biological study); PROC (Process); USES (Uses)  
(OtrB, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(QacA, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(QacE, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(Smr, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(TcmA, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(Tel(L), **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(TetA, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Proteins, specific or class**  
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(TlrC, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Diagnosis**  
(agents, conjugates with **antibody** to multidrug transporter **protein**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Primate**  
(**antibodies** of, conjugates with diagnostic agents, to multidrug transporter **proteins**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **P-glycoproteins**  
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(**antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Luminescent substances**  
(bioluminescent, conjugates with **antibody** to multidrug transporter **protein**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)

- IT Neoplasm  
(cells of; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Chemiluminescent substances  
Fluorescent substances  
Paramagnetic materials  
**Radioactive** substances  
(conjugates with **antibody** to multidrug transporter **protein**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Avidins  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(conjugates, with **antibody** to multidrug transporter **protein** or with diagnostic agent; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Enzymes, biological studies  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(conjugates, with **antibody** to multidrug transporter **protein**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Antibodies**  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(conjugates, with diagnostic agents, to multidrug transporter **proteins**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Haptens**  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(**conjugates**, with diagnostic marker, complexes with bispecific **antibody**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT AIDS (disease)  
Human immunodeficiency virus  
Infection  
Mammal (Mammalia)  
Multidrug resistance  
Pneumonia  
Scintigraphy  
**Single-photon-emission computed tomography**  
(diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Immunoglobulins  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(fragments, conjugates with diagnostic agents, to multidrug transporter **proteins**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Radionuclides**, biological studies  
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(gamma-emitters and positron-emitters, conjugates with **antibody** to multidrug transporter **protein**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Antibodies**

- RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(humanized, conjugates with diagnostic agents, to multidrug transporter **proteins**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Drug delivery systems  
(immunoconjugates; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Avidins  
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(in clearing compn.; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT **Antibodies**  
RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(monoclonal, conjugates, with diagnostic agents, to multidrug transporter **proteins**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Pseudomonas aeruginosa  
(multidrug resistant; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Transport **proteins**  
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(multidrug, **antibody** conjugate to; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Materials  
(photoactive chems., conjugates with **antibody** to multidrug transporter **protein**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Dyes  
(photoactive, conjugates with **antibody** to multidrug transporter **protein**; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Alcohols, analysis  
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(polyhydric, conjugates with biotin or avidin or streptavidin, in clearing compn.; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT Glycoconjugates  
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
(with biotin or avidin or streptavidin, in clearing compn.; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT 13718-28-0, Sodium pertechnetate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**antibody** labeling with; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT 50800-85-6, Indium-111 chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**antibody**-chelator conjugate labeling with; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)

- IT 7440-57-5D, Gold, conjugates with **antibody** to multidrug transporter **protein**, biological studies  
 RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (colloidal; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT 67-43-6DP, DTPA, derivs., conjugates with **antibody** to multidrug transporter **protein**, complexes with indium-111 15750-15-9DP, Indium-111, conjugates with **antibody** to multidrug transporter **protein**, biological studies  
 RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
 (diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT 58-85-5D, Biotin, conjugates with **antibody** to multidrug transporter **protein** or with diagnostic agent 9013-20-1D, Streptavidin, conjugates with **antibody** to multidrug transporter **protein** or with diagnostic agent 10043-66-0D, Iodine-131, conjugates with **antibody** to multidrug transporter **protein**, biological studies 13981-56-1D, Fluorine-18, conjugates with **antibody** to multidrug transporter **protein**, biological studies 14119-09-6D, Gallium-67, conjugates with **antibody** to multidrug transporter **protein**, biological studies 14158-30-6D, Iodine-124, conjugates with **antibody** to multidrug transporter **protein**, biological studies 14158-31-7D, Iodine-125, conjugates with **antibody** to multidrug transporter **protein**, biological studies 15715-08-9D, Iodine-123, conjugates with **antibody** to multidrug transporter **protein**, biological studies 15757-14-9D, Gallium-68, conjugates with **antibody** to multidrug transporter **protein**, biological studies  
 RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT 58-85-5, Biotin 9004-54-0D, Dextran, conjugates with biotin or avidin or streptavidin, analysis 9013-20-1, Streptavidin  
 RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (in clearing compn.; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT 14133-76-7D, Technetium-99, conjugates with **antibody** to multidrug transporter **protein**, biological studies  
 RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (metastable; diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- IT 13981-56-1D, Fluorine-18, conjugates with **antibody** to multidrug transporter **protein**, biological studies  
 RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)  
 (diagnosis of multidrug resistance in cancer and infectious lesions using immunoconjugates)
- RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L147 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:184209 HCAPLUS

DN 130:206780

TI Fluorination of **proteins** and **peptides** for **F-18** positron emission tomographyIN **Griffiths, Gary L.**PA **Immunomedics, Inc., USA**

SO PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07B059-00

ICS A61K051-08; C07K001-13

CC 8-1 (**Radiation Biochemistry**)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9911590	A1	19990311	WO 1998-US18268	19980903 <--
	W:			AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM	
	RW:			GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG	
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	AU 9893756	A1	19990322	AU 1998-93756	19980903 <--
	EP 1009726	A1	20000621	EP 1998-946820	19980903 <--
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	JP 2001515843	T2	20010925	JP 2000-508634	19980903 <--
	US 6358489	B1	20020319	US 2000-644706	20000824 <--
	US 2002119096	A1	20020829	US 2002-71247	20020211 <--
PRAI	US 1997-57485P	P	19970903		<--
	US 1998-146318	A3	19980903		
	WO 1998-US18268	W	19980903		
	US 2000-644706	A3	20000824		

OS MARPAT 130:206780

AB **Thiol-contg. peptides** can be **radiolabeled**with **fluorine-18 (F-18)** byreacting a **peptide** comprising a free **thiol** group withan **F-18**-bound labeling reagent which also has a groupthat is reactive with **thiols**. The labeling reagent has thegeneral formula **18F-(CH<sub>2</sub>)<sub>m</sub>-CR<sub>1</sub>R<sub>2</sub>-(CH<sub>2</sub>)<sub>n</sub>-X**, where **n = 0, 1 or 2;****m = 0, 1 or 2; and n + m = 0, 1 or 2.** X is selected from a groupincluding halides, azide, tosylate, maleimides, etc. R<sub>1</sub> and R<sub>2</sub> are the

same or different and may be, among others, a halide, triflate, hydroxyl,

alkyl. The resulting **F-18-labeled peptides**

may be targeted to a tissue of interest using bispecific

**antibodies** or bispecific **antibody** fragments having onearm specific for the **F-18-labeled peptide** ora low mol. wt. **hapten** conjugated to the **F-18****-labeled peptide**, and another arm specific to the targeted

tissue. The targeted tissue is subsequently visualized by clin. positron

emission tomog.

- ST **fluorine 18 labeling protein peptide**  
**PET**
- IT Immunoglobulins  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(G3, **radiolabeled**; fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT Carcinoembryonic antigen  
RL: MSC (Miscellaneous)  
(**antibody** fragment to; fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT **Haptens**  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(**conjugates** with **radiopharmaceuticals**; fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT Drug targeting  
Fluorination  
**Positron-emission tomography**  
**Radiopharmaceuticals**  
(fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT Reagents  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT Immunoglobulins  
RL: BPR (Biological process); BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent)  
(fragments, for **radiolabeling** and targeted **radiopharmaceuticals**; fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT **Antibodies**  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(humanized, for targeted **radiopharmaceuticals**; fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT **Antibodies**  
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)  
(monoclonal, for targeted **radiopharmaceuticals**; fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT **Antibodies**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(single chain, **radiolabeled**; fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT **Peptides, reactions**  
**Proteins, specific or class**  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**thiol** group-contg.; fluorination of **proteins** and **peptides** for F-18 positron emission tomog.)
- IT 7439-89-6D, Iron, complexes conjugated with **radiopharmaceuticals**, biological studies 7439-96-5D, Manganese, complexes conjugated with **radiopharmaceuticals**,

biological studies 7440-54-2D, Gadolinium, complexes conjugated with **radiopharmaceuticals**, biological studies  
 RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses) (fluorination of **proteins and peptides** for F-18 positron emission tomog.)

IT 220934-28-1P 220934-29-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (fluorination of **proteins and peptides** for F-18 positron emission tomog.)

IT 9034-40-6DP, LH-RH, **radiolabeled** cysteine deriv.  
 220934-30-5P  
 RL: SPN (Synthetic preparation); PREP (Preparation) (fluorination of **proteins and peptides** for F-18 positron emission tomog.)

IT 220934-31-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (intermediate; fluorination of **proteins and peptides** for F-18 positron emission tomog.)

IT 181224-33-9 220934-32-7 220934-33-8  
 220934-34-9 220934-35-0 220934-36-1  
 220934-37-2 220934-38-3 220934-39-4  
 220934-40-7 220934-41-8 220934-42-9  
 220934-43-0 220934-44-1 220934-45-2  
 220934-46-3 220934-47-4 220934-48-5  
 220934-49-6 220934-50-9 220934-51-0  
 220934-52-1 220934-53-2 220934-54-3D, iodinated  
 RL: RCT (Reactant); RACT (Reactant or reagent) (labeling reagent; fluorination of **proteins and peptides** for F-18 positron emission tomog.)

IT 75-47-8, Triiodomethane 594-68-3, Triiodoacetic acid 67862-54-8  
 , Fluoride (18F1-) 91795-63-0 205652-45-5  
 RL: RCT (Reactant); RACT (Reactant or reagent) (reactant; fluorination of **proteins and peptides** for F-18 positron emission tomog.)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Immunomedics; WO 9816254 A 1998 HCAPLUS  
 (2) Kilbourn, M; JOURNAL OF NUCLEAR MEDICINE 1987, V28(4), P462 HCAPLUS  
 (3) Lang, L; APPLIED RADIATION AND ISOTOPES 1994, V45(12), P1155 HCAPLUS  
 (4) Page, R; NUCLEAR MEDICINE AND BIOLOGY 1994, V21(7), P911 HCAPLUS  
 (5) Shiue, C; JOURNAL OF LABELLED COMPOUNDS AND RADIOPHARMACEUTICALS 1989, V26, P287  
 (6) Vaidyanathan, G; BIOCONJUGATE CHEMISTRY 1994, V5, P352 HCAPLUS  
 (7) Vaidyanathan, G; NUCLEAR MEDICINE AND BIOLOGY 1995, V22(6), P759 HCAPLUS  
 (8) Wilbur, D; BIOCONJUGATE CHEMISTRY 1992, V3(6), P433 MEDLINE  
 (9) Zheng, L; JOURNAL OF NUCLEAR MEDICINE 1997, V38(5), P177P

IT 7439-89-6D, Iron, complexes conjugated with **radiopharmaceuticals**, biological studies 7439-96-5D, Manganese, complexes conjugated with **radiopharmaceuticals**, biological studies 7440-54-2D, Gadolinium, complexes conjugated with **radiopharmaceuticals**, biological studies  
 RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses) (fluorination of **proteins and peptides** for F-18 positron emission tomog.)

RN 7439-89-6 HCAPLUS  
 CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7439-96-5 HCAPLUS  
 CN Manganese (8CI, 9CI) (CA INDEX NAME)

Mn

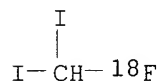
RN 7440-54-2 HCAPLUS  
 CN Gadolinium (8CI, 9CI) (CA INDEX NAME)

Gd

IT **220934-28-1P 220934-29-2P**  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (fluorination of **proteins** and **peptides** for  
**F-18** positron emission tomog.)  
 RN 220934-28-1 HCAPLUS  
 CN Acetic acid, fluoro-18F-diiodo- (9CI) (CA INDEX NAME)

 $^{18}\text{F}-\text{CI}_2-\text{CO}_2\text{H}$ 

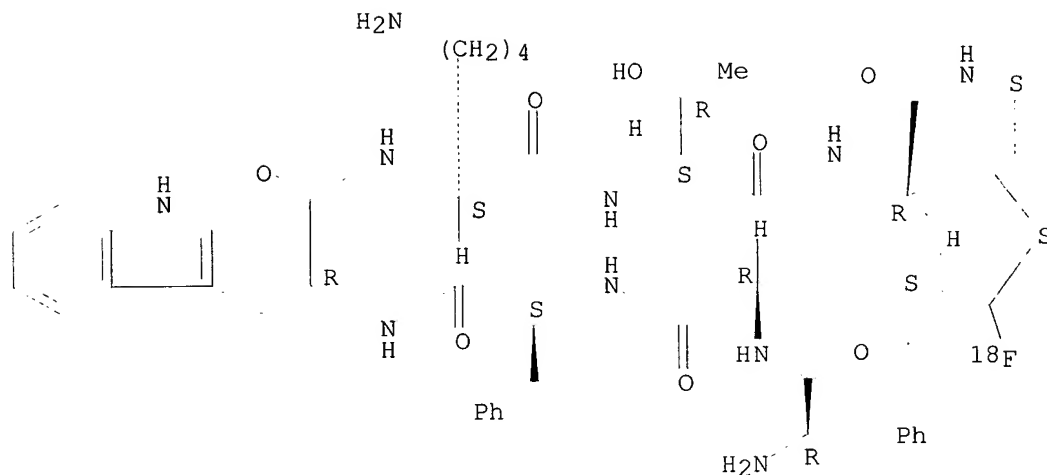
RN 220934-29-2 HCAPLUS  
 CN Methane, fluoro-18F-diiodo- (9CI) (CA INDEX NAME)



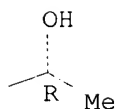
IT **220934-30-5P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (fluorination of **proteins** and **peptides** for  
**F-18** positron emission tomog.)  
 RN 220934-30-5 HCAPLUS  
 CN L-Cysteinamide, D-phenylalanyl-S-(fluoro-18F-mercaptomethyl)-L-cysteinyl-L-phenylalanyl-D-tryptophyl-L-lysyl-L-threonyl-N-[(1S,2R)-2-hydroxy-1-(hydroxymethyl)propyl]-, cyclic (2.fwdarw.7)-thioether (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

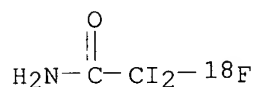


OH

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IT      220934-31-6P
        RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
        (Reactant or reagent)
        (intermediate; fluorination of proteins and peptides
        for F-18 positron emission tomog.)
RN      220934-31-6 HCAPLUS
CN      Acetamide, 2-(fluoro-18F)-2,2-diiodo- (9CI) (CA INDEX NAME)

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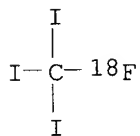


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        220934-44-1  220934-45-2  220934-46-3
        220934-47-4  220934-48-5  220934-49-6
        220934-50-9  220934-51-0  220934-52-1
        220934-53-2
        RL: RCT (Reactant); RACT (Reactant or reagent)
              (labeling reagent; fluorination of proteins and
              peptides for F-18 positron emission
              tomog.)
RN      220934-32-7  HCAPLUS

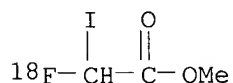
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CN Methane, fluoro-18F-triiodo- (9CI) (CA INDEX NAME)



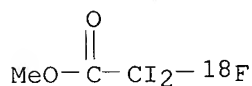
RN 220934-33-8 HCAPLUS

CN Acetic acid, fluoro-18F-iodo-, methyl ester (9CI) (CA INDEX NAME)



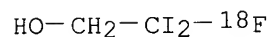
RN 220934-34-9 HCAPLUS

CN Acetic acid, fluoro-18F-diiodo-, methyl ester (9CI) (CA INDEX NAME)



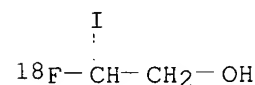
RN 220934-35-0 HCAPLUS

CN Ethanol, 2-(fluoro-18F)-2,2-diiodo- (9CI) (CA INDEX NAME)



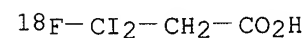
RN 220934-36-1 HCAPLUS

CN Ethanol, 2-(fluoro-18F)-2-iodo- (9CI) (CA INDEX NAME)



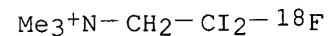
RN 220934-37-2 HCAPLUS

CN Propanoic acid, 3-(fluoro-18F)-3,3-diiodo- (9CI) (CA INDEX NAME)



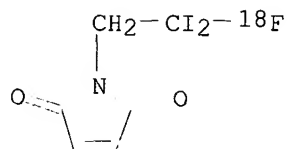
RN 220934-38-3 HCAPLUS

CN Ethanaminium, 2-(fluoro-18F)-2,2-diiodo-N,N,N-trimethyl- (9CI) (CA INDEX NAME)

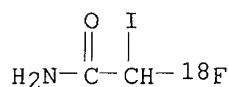


RN 220934-39-4 HCAPLUS

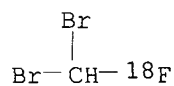
CN 1H-Pyrrole-2,5-dione, 1-[2-(fluoro-18F)-2,2-diiodoethyl]- (9CI) (CA INDEX NAME)



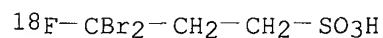
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CN Acetamide, 2-(fluoro-18F)-2-iodo- (9CI) (CA INDEX NAME)



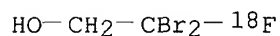
RN 220934-41-8 HCAPLUS  
CN Methane, dibromofluoro-18F- (9CI) (CA INDEX NAME)



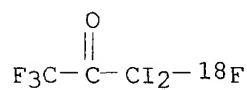
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CN 1-Propanesulfonic acid, 3,3-dibromo-3-(fluoro-18F)- (9CI) (CA INDEX NAME)



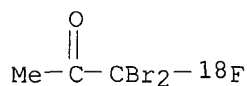
RN 220934-43-0 HCAPLUS  
CN Ethanol, 2,2-dibromo-2-(fluoro-18F)- (9CI) (CA INDEX NAME)



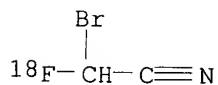
RN 220934-44-1 HCAPLUS  
CN 2-Propanone, 1,1,1-trifluoro-3-(fluoro-18F)-3,3-diiodo- (9CI) (CA INDEX NAME)



RN 220934-45-2 HCAPLUS  
CN 2-Propanone, 1,1-dibromo-1-(fluoro-18F)- (9CI) (CA INDEX NAME)

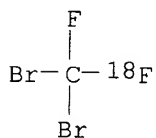


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CN Acetonitrile, bromofluoro-18F- (9CI) (CA INDEX NAME)



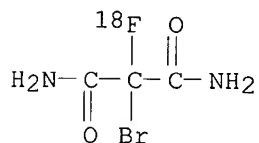
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CN Methane, dibromofluorofluoro- $^{18}\text{F}$ - (9CI) (CA INDEX NAME)



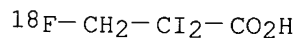
RN 220934-48-5 HCAPLUS

CN Propanediamide, 2-bromo-2-(fluoro- $^{18}\text{F}$ )- (9CI) (CA INDEX NAME)



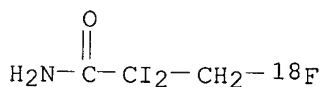
RN 220934-49-6 HCAPLUS

CN Propanoic acid, 3-(fluoro- $^{18}\text{F}$ )-2,2-diiodo- (9CI) (CA INDEX NAME)



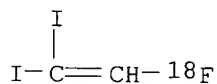
RN 220934-50-9 HCAPLUS

CN Propanamide, 3-(fluoro- $^{18}\text{F}$ )-2,2-diiodo- (9CI) (CA INDEX NAME)



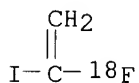
RN 220934-51-0 HCAPLUS

CN Ethene, 2-(fluoro- $^{18}\text{F}$ )-1,1-diiodo- (9CI) (CA INDEX NAME)



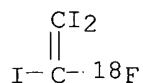
RN 220934-52-1 HCAPLUS

CN Ethene, 1-(fluoro- $^{18}\text{F}$ )-1-iodo- (9CI) (CA INDEX NAME)



RN 220934-53-2 HCAPLUS

CN Ethene, fluoro-18F-triiodo- (9CI) (CA INDEX NAME)



IT 67862-54-8, Fluoride (18F1-)  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant; fluorination of **proteins** and **peptides**  
 for **F-18** positron emission **tomog.**)  
 RN 67862-54-8 HCAPLUS  
 CN Fluoride (18F1-) (9CI) (CA INDEX NAME)

18F-

=> d all hitstr

L158 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:819263 HCAPLUS

DN 132:69307

TI Use of bispecific antibodies for pre-targeting diagnosis and therapy

IN Hansen, Hans J.; **Griffiths, Gary L.**; Leung, Shui-On; McBride,  
 William J.; Qu, Zhengxing

PA **Immunomedics, Inc., USA**

SO PCT Int. Appl., 76 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K039-00

CC 63-5 (Pharmaceuticals)

Section cross-reference(s): 8, 9

FAN.CNT 14

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9966951	A2	19991229	WO 1999-US13879	19990622
WO 9966951	A3	20000615		
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
CA 2335364	AA	19991229	CA 1999-2335364	19990622
AU 9945792	A1	20000110	AU 1999-45792	19990622
EP 1089766	A2	20010411	EP 1999-928808	19990622
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
JP 2002518460	T2	20020625	JP 2000-555637	19990622
PRAI US 1998-90142P	P	19980622		
US 1998-104156P	P	19981014		
WO 1999-US13879	W	19990622		

OS MARPAT 132:69307

AB The present invention relates to a bispecific antibody or antibody fragment having at least one arm that specifically binds a targeted tissue

and at least one other arm that specifically binds a targetable conjugate. The targetable conjugate comprises a carrier portion which comprises or bears at least one epitope recognizable by at least one arm of said bispecific antibody or antibody fragment. The targetable conjugate further comprises one or more therapeutic or diagnostic agents or enzymes. The invention provides constructs and methods for producing the bispecific antibodies or antibody fragments, as well as methods for using them.

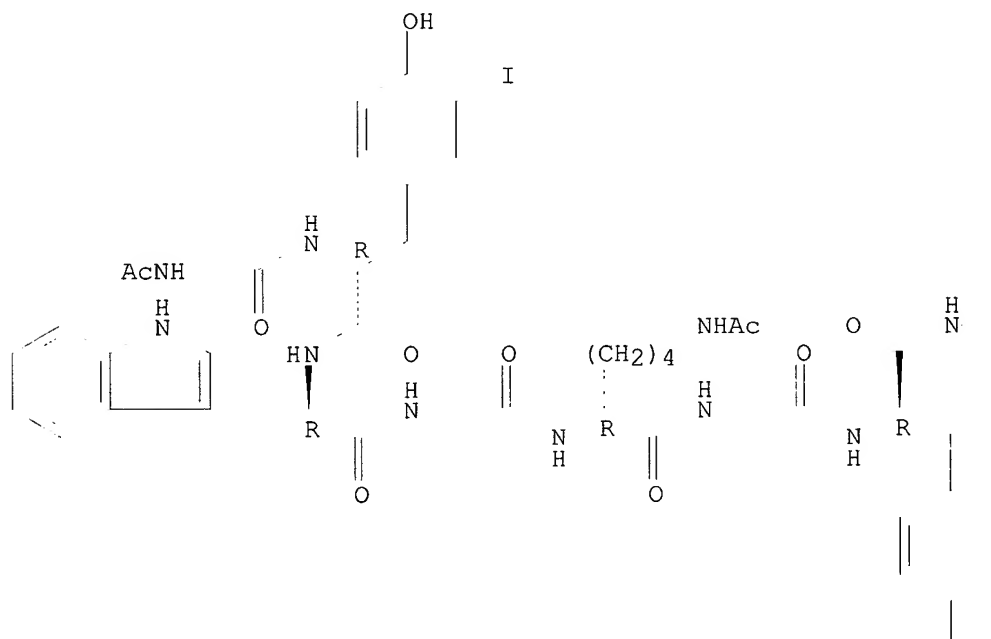
- ST immunotargeted drug delivery bispecific antibody diagnosis
- IT Imaging agents
  - (MRI; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Diagnosis
  - (agents; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Chelating agents
  - Drug targeting
  - Genetic engineering
  - Molecular cloning
  - Radiotherapy
  - Test kits
  - Transcription initiation
  - Transduction, genetic
    - (bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Fusion proteins (chimeric proteins)
  - RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
  - (bispecific antibodies for pre-targeting diagnosis and therapy)
- IT **Haptens**
  - RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
  - (bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Chelates
  - RL: FMU (Formation, unclassified); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); USES (Uses)
  - (bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Carbohydrates, biological studies
  - RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
  - (bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Peptides, biological studies
  - RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
  - (bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Radionuclides, biological studies
  - RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
  - (bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Antibodies
  - RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
  - (bispecific; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Toxicity
  - (drug; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Immunoglobulins
  - RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
  - (fragments; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Fissurella
  - (hemocyanin of, conjugation of; bispecific antibodies for pre-targeting

- diagnosis and therapy)
- IT Antibodies  
RL: BPN (Biosynthetic preparation); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(humanized; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Drug delivery systems  
(immunoconjugates; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Enzymes, biological studies  
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)  
(immunoconjugates; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Drug delivery systems  
(immunotargeted; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Hemocyanins  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(keyhole limpet, conjugation of; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Antibodies  
RL: BPN (Biosynthetic preparation); BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(monoclonal; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Circulation  
(nonlocalized antibody clearing from; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Drug delivery systems  
(prodrugs; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Epitopes  
(site-specific; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Milk  
Plant (Embryophyta)  
(transgenic protein prodn. in; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Animal  
Bacteria (Eubacteria)  
Insect (Insecta)  
Mammal (Mammalia)  
(transgenic; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT Embryo, animal  
(zygote, transduction of; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT 9016-18-6D, Carboxylesterase, conjugates  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)  
(bispecific antibodies for pre-targeting diagnosis and therapy)
- IT **253197-60-3P**  
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(bispecific antibodies for pre-targeting diagnosis and therapy)
- IT 10098-91-6, Yttrium 90, reactions 14133-76-7, Technetium 99, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)

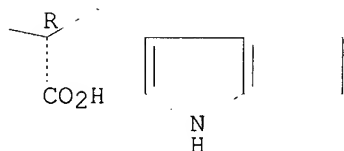
- (bispecific antibodies for pre-targeting diagnosis and therapy)
- IT 249292-65-7DP, Bz-DTPA and thiosemicarbazonyloxyglyoxylcysteine conjugate  
253197-63-6P 253331-44-1DP, peptide conjugate  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
- (bispecific antibodies for pre-targeting diagnosis and therapy)
- IT 67-43-6, Dtpa 56491-86-2, Nota 60239-18-1, Dota 60239-22-7, Teta 253197-61-4D, Thiosemicarbazonylglyoxylcysteine, derivs. and peptide conjugates 253197-62-5, Thiosemicarbazinylacetylcysteine  
RL: BPR (Biological process); BSU (Biological study, unclassified); NUU (Other use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
- (chelating agent; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT 7440-42-8, Boron, biological studies 14798-12-0, Boron 10, biological studies  
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
- (irradn. of; bispecific antibodies for pre-targeting diagnosis and therapy)
- IT **253197-60-3P**  
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
- (bispecific antibodies for pre-targeting diagnosis and therapy)
- RN 253197-60-3 HCAPLUS
- CN D-Tryptophan, N-acetylglycyl-3-iodo-D-tyrosyl-D-tryptophylglycyl-N6-acetyl-D-lysylglycyl-3-iodo-D-tyrosyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



PAGE 2-A



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DICTIONARY FILE UPDATES: 7 MAR 2003 HIGHEST RN 497212-14-3

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:

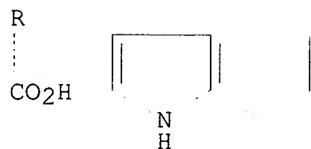
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> d sqide can l155

L155 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS  
RN 253197-60-3 REGISTRY



PAGE 1-B



I

PAGE 2-A

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OH

1 REFERENCES IN FILE CA (1962 TO DATE)  
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 132:69307

=> fil hcaplus  
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FILE COVERS 1907 - 8 Mar 2003 VOL 138 ISS 11  
FILE LAST UPDATED: 7 Mar 2003 (20030307/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L159 ANSWER 1 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1999:426944 HCAPLUS

DN 131:99520

TI Labeled .alpha.-halogenoalkylaromatic **amino acid** and its application to a labeling reagent.

IN Kawai, Keiichi

PA Daiichi Radioisotope Laboratories, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G21G004-08

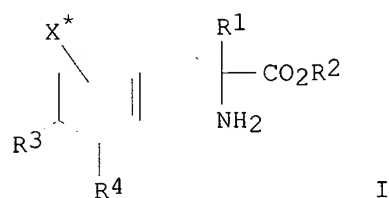
ICS A61K051-00; C07C229-36; G01T001-161

CC 9-8 (Biochemical Methods)

Section cross-reference(s): 2, 7, 14

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	JP 11183696	A2	19990709	JP 1997-363838	19971218 <--
PRAI	JP 1997-363838		19971218 <--		
OS	MARPAT 131:99520				
GI					



AB New labeling compds. are developed for imaging or quant. anal. of presynaptic functions essential for neurotransmission such as biosynthesis, storage and release of neurotransmitters. These compds. are labeled .alpha.-halogenoalkylarom. **amino acids** shown by I (R1=halogenoalkyl group; R2=hydrogen atom or low-grade alkyl group; R3 and R4=hydrogen atom or hydroxyl group with or without a protecting group, independently; and X\*=**radiolabeled** halogen atom). Labeling reagents contg. these compds. as essential constituents are presented. Various basic properties of these compds. are studied in labeling tests, and their applications to positron-emission **tomog** . and single-photon-emission computed **tomog**. are shown.

ST halogenoalkyl arom **amino acid** labeling neurotransmitter

IT Biological transport

(**amino acid**; labeled .alpha.-halogenoalkylarom.

**amino acid** and application to a labeling reagent)

IT Metabolism

(anabolic; labeled .alpha.-halogenoalkylarom. **amino**

**acid** and application to a labeling reagent)

IT **Amino acids**, biological studies

RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(arom., **radiolabeled**, .alpha.-halogenoalkyl, salts of;  
labeled .alpha.-halogenoalkylarom. **amino acid** and  
application to a labeling reagent)

IT Biological transport  
(efflux; labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT Blood analysis  
Blood plasma  
Brain  
Diagnosis  
Imaging  
Kidney  
Liver  
Neurotransmission  
Pancreas  
Positron-emission tomography  
Single-photon-emission computed tomography  
Storage  
Therapy  
Urine analysis  
(labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT Neurotransmitters  
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)  
(labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT Analysis  
(quant. anal.; labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT 60-18-4, L-Tyrosine, biological studies 630-60-4, Ouabain 637-33-2, 3-Hydroxybenzylhydrazine 69955-03-9, .alpha.-Difluoromethyl dopa  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
(labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT 9042-64-2, Aromatic L-**amino acid** decarboxylase  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT 60-18-4D, L-Tyrosine, labeled with iodine 125, biological studies 82691-33-6D, N-Isopropyl-p-iodoamphetamine, labeled with iodine 123  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT 230617-39-7DP, labeled with iodine 125 or 123 230617-40-ODP, labeled with iodine 125  
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT 10043-66-0, Iodine 131, uses 13981-56-1, Fluorine 18, uses 14158-30-6, Iodine 124, uses 14158-31-7, Iodine 125, uses 15715-08-9, Iodine 123, uses 15765-38-5, Bromine 76, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT 3417-91-2, Tyrosine methylester hydrochloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(labeled .alpha.-halogenoalkylarom. **amino acid** and application to a labeling reagent)

IT 153711-34-3P 153711-36-5P 230617-39-7P 230617-40-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (labeled .alpha.-halogenoalkylarom. **amino acid** and  
 application to a labeling reagent)  
 IT 13981-56-1, Fluorine 18, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (labeled .alpha.-halogenoalkylarom. **amino acid** and  
 application to a labeling reagent)  
 RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1999:194032 HCAPLUS  
 DN 130:234067  
 TI Imaging agents for early detection and monitoring of cardiovascular plaque  
 IN Elmaleh, David R.; Fischman, Alan J.; Babich, John W.  
 PA The General Hospital Corporation, USA  
 SO PCT Int. Appl., 23 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A61K051-08  
 ICS A61K051-12; A61K051-10  
 CC 8-9 (**Radiation Biochemistry**)  
 Section cross-reference(s): 63

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9912579	A1	19990318	WO 1998-US18685	19980908 <--
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2302837	AA	19990318	CA 1998-2302837	19980908 <--
AU 9893074	A1	19990329	AU 1998-93074	19980908 <--
EP 1011738	A1	20000628	EP 1998-945939	19980908 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRAI US 1997-925213 A 19970908 <--  
 WO 1998-US18685 W 19980908

AB The invention provides imaging agents comprising a label in assocn. with a plaque specific targeting mol. Methods for using the imaging agents to diagnose or monitor plaque formation and growth and kits contg. the cardiovascular agents or components suitable for prodn. of the imaging agents are also provided.

ST imaging agent cardiovascular plaque

IT Diagnosis

(agents; imaging agents for early detection and monitoring of cardiovascular plaque)

IT Drug targeting

Infection

Inflammation

(cardiovascular imaging agent comprising a **radionuclide** assocd. with a targeting moiety, an infection-sp. agent)

- IT **Radionuclides**, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (cardiovascular imaging agent comprising a **radionuclide**  
 assocd. with a targeting moiety, an infection-sp. agent)
- IT **Peptides**, biological studies  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (chemotactic, targeting moiety; cardiovascular imaging agent comprising  
 a **radionuclide** assocd. with a targeting moiety, an  
 infection-sp. agent)
- IT **Radiology**  
 (diagnostic; imaging agents for early detection and monitoring of  
 cardiovascular plaque)
- IT Cardiovascular system  
 (disease; imaging agents for early detection and monitoring of  
 cardiovascular plaque)
- IT Atherosclerosis  
 Cardiovascular system  
 Chelating agents  
 Imaging agents  
 Reducing agents  
 Test kits  
 Thrombus  
 (imaging agents for early detection and monitoring of cardiovascular  
 plaque)
- IT Leukocyte  
 (targeting moiety; cardiovascular imaging agent comprising a  
**radionuclide** assocd. with a targeting moiety, an infection-sp.  
 agent)
- IT **Antibodies**  
**Proteins**, general, biological studies  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (targeting moiety; cardiovascular imaging agent comprising a  
**radionuclide** assocd. with a targeting moiety, an infection-sp.  
 agent)
- IT 69-65-8, Mannitol 87-69-4, Tartaric acid, uses 526-95-4, D-Gluconic  
 acid 23351-51-1, Glucoheptonic acid  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (imaging agents for early detection and monitoring of cardiovascular  
 plaque)
- IT 14133-76-7DP, Technetium 99, imaging agents labeled with, biological  
 studies  
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological  
 study); PREP (Preparation); USES (Uses)  
 (imaging agents for early detection and monitoring of cardiovascular  
 plaque)
- IT **13981-56-1D**, Fluorine 18, imaging agents labeled with, biological  
 studies 14276-53-0D, Copper 62, imaging agents labeled with, biological  
 studies 15715-08-9D, Iodine 123, imaging agents labeled with, biological  
 studies 15750-15-9D, Indium 111, imaging agents labeled with, biological  
 studies 15757-14-9D, Gallium 68, imaging agents labeled with, biological  
 studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (imaging agents for early detection and monitoring of cardiovascular  
 plaque)
- IT 7440-31-5D, Tin, complexes with glucoheptonic acid, reactions 23288-61-1  
 23351-51-1D, tin complexes 133081-26-2 134314-57-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant; imaging agents for early detection and monitoring of  
 cardiovascular plaque)
- IT 7440-31-5D, Tin, compds., uses  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (reducing agents; imaging agents for early detection and monitoring of  
 cardiovascular plaque)

IT 59880-97-6  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(targeting moiety; cardiovascular imaging agent comprising a  
**radionuclide** assocd. with a targeting moiety, an infection-sp.  
agent)

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE  
(1) Australian Nuclear Science Tec; WO 9102547 A 1991 HCAPLUS  
(2) Babich, J; NUCLEAR MEDICINE AND BIOLOGY 1995, V22(1), P25 HCAPLUS  
(3) Dinkelborg, L; WO 9710853 A 1997 HCAPLUS  
(4) Dinkelborg, L; J NUCL MED 1997, V38(suppl), P173  
(5) Dinkelborg, L; J NUCL MED 1998, V39(10), P1819 MEDLINE  
(6) Du Pont Merck Pharma; WO 9631243 A 1996 HCAPLUS  
(7) Gen Hospital Corp; WO 9511045 A 1995 HCAPLUS  
(8) Hom, R; NUCLEAR MEDICINE AND BIOLOGY 1997, V24(6), P485 HCAPLUS  
(9) Immunomedics Inc; EP 0419203 A 1991 HCAPLUS  
(10) Liu, S; APPLIED RADIATION AND ISOTOPES 1997, V48(8), P1103 HCAPLUS  
(11) Mahmood, A; NUCLEAR MEDICINE AND BIOLOGY 1996, V23(1), P79 HCAPLUS  
(12) Neorx Corp; WO 9010463 A 1990 HCAPLUS  
(13) Resolution Pharm Inc; WO 9503280 A 1995 HCAPLUS  
(14) Resolution Pharm Inc; WO 9506633 A 1995 HCAPLUS  
(15) Rhomed Inc; WO 9312819 A 1993 HCAPLUS  
(16) Vaidyanathan, G; NUCLEAR MEDICINE AND BIOLOGY 1995, V22(6), P759 HCAPLUS  
(17) Welling, M; NUCLEAR MEDICINE AND BIOLOGY 1997, V24(7), P649 HCAPLUS

IT 13981-56-1D, Fluorine 18, imaging agents labeled with, biological  
studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(imaging agents for early detection and monitoring of cardiovascular  
plaque)

RN 13981-56-1 HCAPLUS  
CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2003 ACS  
AN 1996:360374 HCAPLUS  
DN 125:52419  
TI A comparative study of n.c.a. fluorine-18 labeling of **proteins**  
via acylation and photochemical conjugation  
AU Wester, Hans-Juergen; Hamacher, Kurt; Stoecklin, Gerhard  
CS Institut Nuklearchemie, Forschungszentrum Juelich Gmbh, Juelich, D-52425,  
Germany  
SO Nuclear Medicine and Biology (1996), 23(3), 365-372  
CODEN: NMBIEO; ISSN: 0883-2897  
PB Elsevier  
DT Journal  
LA English  
CC 8-1 (Radiation Biochemistry)  
AB Three methods for 18F-labeling of **proteins** were evaluated with  
respect to conjugation yields, suitability for remote-controlled routine  
synthesis, and in vivo stability of the conjugates, i.e., photochem.  
conjugation (PCC) using 4-azidophenacyl-[18F]fluoride ([18F]APF) as well  
as classical conjugation using 4-nitrophenyl 2-[18F]fluoropropionate  
([18F]NPFP) and N-succinimidyl 4-[18F]fluorobenzoate ([18F]SFB). For this  
purpose, [18F]APF was synthesized in one step with a **radiochem.**  
yield (RCY) of up to 70% within about 15 min. The 18F-labeling was  
performed by photogeneration of the corresponding [18F]arylnitrene by  
irradiating [18F]APF with UV light in presence of the **protein** in  
aq. buffered soln. Using this procedure, human serum albumin (HSA),  
transferrin, IgG, and avidin were labeled. The [18F]NPFP was synthesized

according to a recently published method. **Prepn.** of [18F]SFB was achieved within 35 min with **radiochem.** yields of 55 .+- . 10% by an improved method using O-(N-succinimidyl)-N-N,N',N'-tetramethyluronium tetrafluoroborate (TSTU) as activating reagent. Compared to [18F]APF, **protein** labeling with [18F]NPFP and [18F]SFB gave rise to considerably higher RCY, of up to 90%. Labeling studies showed that conjugation yields using [18F]NPFP depend on the lysine, tyrosine, and histidine content of the **proteins** used, whereas conjugation with [18F]APF and [18F]SFB predominantly depends on the Lys content. Owing to competing O-acylation of Tyr residues, [18F]fluoropropionylated HSA was partially unstable under slightly basic conditions. Biodistribution studies with 18F-labeled HSA in NMRI mice revealed the highest in vivo stability for the [18F]SFB conjugate. Based on these results, [18F]SFB seems to be the most suitable 18F-labeling agent for **proteins**, particularly for the labeling of **antibodies**.

- ST fluorine 18 labeling **protein** acylation; photochem conjugation  
fluorine 18 **antibody**
- IT Acylation  
(comparative study of n.c.a. fluorine-18 labeling of **proteins**  
via acylation and photochem. conjugation)
- IT Albumins, reactions.  
**Antibodies**  
Avidins  
**Proteins**, reactions  
Transferrins  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(comparative study of n.c.a. fluorine-18 labeling of **proteins**  
via acylation and photochem. conjugation)
- IT Conjugation  
(photochem.; comparative study of n.c.a. fluorine-18 labeling of  
**proteins** via acylation and photochem. conjugation)
- IT Immunoglobulins  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(G, comparative study of n.c.a. fluorine-18 labeling of  
**proteins** via acylation and photochem. conjugation)
- IT **13981-56-1**, Fluorine 18, reactions 178273-74-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(comparative study of n.c.a. fluorine-18 labeling of **proteins**  
via acylation and photochem. conjugation)
- IT 141762-27-8P 178273-73-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(comparative study of n.c.a. fluorine-18 labeling of **proteins**  
via acylation and photochem. conjugation)
- IT **13981-56-1**, Fluorine 18, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(comparative study of n.c.a. fluorine-18 labeling of **proteins**  
via acylation and photochem. conjugation)
- RN 13981-56-1 HCAPLUS
- CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2003 ACS  
AN 1996:334561 HCAPLUS  
DN 125:80556  
TI The carrier-free 18F-fluorination of **proteins**, **peptides**  
, and tyrosine  
AU Wester, Hans Juergen

CS Inst. Nuclearchem., Forschungszent. Juelich G.m.b.H., Juelich, D-52425, Germany

SO Berichte des Forschungszentrums Juelich (1996), Juel-3206, 1-157 pp.  
CODEN: FJBEE5; ISSN: 0366-0885

DT Report

LA German

CC 8-1 (**Radiation Biochemistry**)

AB The nucleic properties of  $^{18}\text{F}$  for noninvasive diagnosis with positron emission **tomog.** (**PET**),  $^{18}\text{F}$ -fluorination procedures via prosthetic group labeling, and subsequent conjugation were investigated and compared with respect to synthesis time, **radiochem.** yield, suitability for automation, in vivo stability, and preservation of the biol. activity of the labeled biomols. Three methods were investigated: acylation by N-succinimidyl 4- $^{18}\text{F}$ fluorobenzoate ( $^{18}\text{F}$ SFB), by nitrophenyl 2- $^{18}\text{F}$ fluoropropionate ( $^{18}\text{F}$ NPPF), and photochem. conjugation by 4-azidophenyl  $^{18}\text{F}$ fluoride ( $^{18}\text{F}$ APF). Compared to  $^{18}\text{F}$ APF, **protein** labeling with  $^{18}\text{F}$ SFB gave rise to considerable **radiochem.** yield of up to 90%. The conjugation yields by  $^{18}\text{F}$ NPPF in the presence of 1-hydroxybenzotriazole depend on the relative Lys, Tyr, and His content of the **proteins** used, whereas photochem. conjugation with  $^{18}\text{F}$ APF, as well as acylation with  $^{18}\text{F}$ SFB, predominantly depended on the Lys content. The applicability of these methods so smaller bioactive **peptides** was demonstrated. As a potential tracer for the cerebral **amino acid** transport system, O-(2 $^{18}\text{F}$ fluoroethyl)-Tyr was **prepd.** by O-2- $^{18}\text{F}$ fluoroethylation of fully protected Tyr and unprotected tyr by 2- $^{18}\text{F}$ fluoroethyltosylate with a **radiochem.** yield of 35-39%. The tracer showed high and continuous uptake in mice brain reaching 2.5% injected dose/g at 60 min and exhibited high in vivo stability.

ST fluorine 18 fluorination **protein peptide** tyrosine

IT Brain  
(carrier-free  $^{18}\text{F}$ -fluorination of **proteins, peptides**, and tyrosine)

IT Avidins  
Transferrins  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(carrier-free  $^{18}\text{F}$ -fluorination of **proteins, peptides**, and tyrosine)

IT Albumins, biological studies  
**Amino acids**, biological studies  
**Peptides**, biological studies  
**Proteins**, biological studies  
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(carrier-free  $^{18}\text{F}$ -fluorination of **proteins, peptides**, and tyrosine)

IT Immunoglobulins  
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(G, carrier-free  $^{18}\text{F}$ -fluorination of **proteins, peptides**, and tyrosine)

IT **Tomography**  
(**positron-emission**, carrier-free  $^{18}\text{F}$ -fluorination of **proteins, peptides**, and tyrosine for potential **PET**)

IT Fluorination  
(**radiochem.**, carrier-free  $^{18}\text{F}$ -fluorination of **proteins, peptides**, and tyrosine)

IT 56-41-7, Alanine, biological studies 61-90-5, Leucine, biological studies 63-91-2, Phenylalanine, biological studies 70-78-0, 3-Iodotyrosine 672-87-7 6230-11-1 24250-85-9 51110-01-1, Somatostatin 65555-88-6

RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)

(carrier-free 18F-fluorination of **proteins, peptides**, and tyrosine)

IT **13981-56-1**, Fluorine-18, biological studies

RL: BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)

(carrier-free 18F-fluorination of **proteins, peptides**, and tyrosine)

IT 56-45-1, Serine, reactions 72-19-5, Threonine, reactions 583-52-8  
584-08-7 2592-95-2 24345-16-2, Apamine 57018-46-9 113426-12-3  
124915-06-6 159174-30-8 178432-96-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(carrier-free 18F-fluorination of **proteins, peptides**, and tyrosine)

IT 50-99-7DP, D-(+)-Glucose, SMS 201-995 conjugates 59-23-4DP,  
D-(+)-Galactose, SMS 201-995 conjugates 63-42-3DP, SMS 201-995  
conjugates 69-79-4DP, SMS 201-995 conjugates 619-84-1P 1109-28-0DP,  
D-Maltotriose, SMS 201-995 conjugates 4326-36-7P 10011-97-9P  
14809-53-1DP, Yttrium 86, SDZ 215-811 complexes, **preparation**  
15750-15-9DP, Indium 111, SMA 215-811 complexes, **preparation**  
15757-14-9DP, Gallium 68, SDZ 216-927 complexes, **preparation**  
83150-76-9DP, Sms 201-995, sugar conjugates 83150-76-9P, Sms 201-995  
138661-02-6DP, SDZ 215-811, indium-111 and yttrium-86 complexes  
147790-82-7DP, Sdz 216-927, gallium-68 complexes 178602-43-2P  
178602-44-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(carrier-free 18F-fluorination of **proteins, peptides**, and tyrosine)

IT 56-87-1P, L-Lysine, **preparation** 60-18-4P, Tyrosine,  
**preparation** 71-00-1P, Histidine, **preparation**  
19121-31-4P, Hydrofluoric-18F acid 124915-09-9P 141762-27-8P  
159174-29-5DP, human serum albumin conjugates 178273-73-9P  
178432-97-8P 178432-98-9DP, IgG conjugates 178432-99-0P 178433-00-6P  
178433-01-7P 178433-02-8P 178433-03-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(carrier-free 18F-fluorination of **proteins, peptides**, and tyrosine)

IT **13981-56-1**, Fluorine-18, biological studies

RL: BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)

(carrier-free 18F-fluorination of **proteins, peptides**, and tyrosine)

RN 13981-56-1 HCAPLUS

CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1996:264078 HCAPLUS

DN 125:52422

TI On the low carrier **radiofluorination** of **peptides** and **proteins** by prosthetic groups

AU Guhlke, Stefan

CS Inst. Nuklearchem., Forschungszent. Juelich G.m.b.H., Juelich, D-52425, Germany

SO Berichte des Forschungszentrums Juelich (1995), Juel-3136, 1-135  
CODEN: FJBEE5; ISSN: 0366-0885

DT Report  
 LA German  
 CC 8-1 (Radiation Biochemistry)  
 AB 18F-fluoroacylation and 18F-fluoroamidation were studied for no-carrier-added (n.c.a.) labeling of **peptides** and **proteins**. Following deprotection, formation of imidazolides, succinimide esters or nitrophenyl esters as reactive intermediates were investigated. A route to p-nitrophenylesters via 18F-fluorinated acid chloride was developed. The activity of the 18F-labeled acylation agents towards amines with different steric hindrance and basicities was compared. Even with low reactive aniline deriv. almost quant. formation of the corresponding 18F-fluorinated amides was obsd. The somatostatin analog octreotide was selectively 18F-fluoroacylated at the N-terminus of the cyclic **octapeptide** by the .epsilon.-Lys-Boc protected precursor. Binding studies with the non-**radioactive** fluoropropionylated std. compd. and rat cortex membranes revealed high affinity ( $pK_i = 8.6$ ) to the somatostatin receptor and almost unchanged biol. activity compared to the native octreotide. For 18F-fluoroamidation, Boc-protected amines were used as precursors in the n.c.a. nucleophilic fluorination step. 3-[18F]fluoropropylamine was optimal for 18F-fluoroamidation (**radiochem.** yield >90%) and reactivity towards acylation agents. Thus derivs. of biotin were labeled with **radiochem.** yields (>70%) by 18F-fluoroacylation as well as 18F-fluoroamidation. Both methods led to labeled compds. with full biol. activity as shown by their binding ability to the **protein** avidin. Avidin was labeled by the 18F-fluoroacylation method, preservation of the biol. activity was proved by affinity chromatog.

ST positron emission **tomog radiofluorination**  
**peptide**; fluorine 18 labeling **protein**; biotin avidin octreotide **radiofluorination**

IT Kinetics, reaction  
 (low carrier **radiofluorination** of **peptides** and **proteins** by prosthetic groups)

IT **Peptides**, biological studies  
**Proteins**, specific or class, biological studies  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (low carrier **radiofluorination** of **peptides** and **proteins** by prosthetic groups)

IT Acylation  
 (fluoro-, low carrier **radiofluorination** of **peptides** and **proteins** by prosthetic groups)

IT Fluorination  
 (**radiochem.**, low carrier **radiofluorination** of **peptides** and **proteins** by prosthetic groups)

IT 349-43-9 405-56-1 406-74-6 430-98-8 451-46-7 458-77-5 459-72-3  
 640-19-7 2366-56-5 66134-67-6 114435-94-8 133745-74-1  
 159174-17-1 159761-96-3 178181-30-1 178181-31-2 178181-32-3  
 178181-33-4 178181-34-5 178181-35-6 178181-36-7 178181-37-8  
 178181-39-0 178181-40-3 178181-41-4 178181-42-5 178181-43-6  
 178181-44-7 178181-45-8 178181-46-9 178181-47-0 178181-48-1  
 178181-49-2 178181-50-5 178181-51-6 178181-52-7 178181-53-8  
 178181-54-9 178181-55-0 178181-56-1 178181-57-2 178181-58-3  
 RL: ANT (Analyte); ANST (Analytical study)  
 (low carrier **radiofluorination** of **peptides** and **proteins** by prosthetic groups)

IT 2620-14-6 3017-53-6 17282-40-5 34005-60-2, Calcium p-nitrophenolate  
 36752-79-1 39684-80-5 41145-84-0 57057-80-4 **67862-54-8**,  
 Fluoride (18F1-) 74209-95-3 83948-53-2 124915-06-6 140384-48-1  
 178181-59-4 178181-60-7 178181-61-8 178181-62-9 178181-63-0  
 178181-64-1 178181-65-2 178181-66-3 178181-67-4 178181-68-5  
 178181-69-6  
 RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)

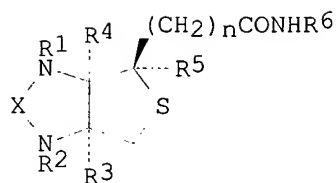
(low carrier **radiofluorination** of **peptides** and **proteins** by prosthetic groups)  
 IT 67862-54-8, Fluoride (18F1-)  
 RL: ANT (Analyte); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)  
 (low carrier **radiofluorination** of **peptides** and **proteins** by prosthetic groups)  
 RN 67862-54-8 HCAPLUS  
 CN Fluoride (18F1-) (9CI) (CA INDEX NAME)

18F-

L159 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1996:130877 HCAPLUS  
 DN 124:185559  
 TI Biotin compounds for targeting tumors and sites of infection  
 IN Elmaleh, David R.; Fischman, Alan J.; Shoup, Timothy M.; Babich, John W.  
 PA USA  
 SO PCT Int. Appl., 28 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM A61K047-48  
 ICS A61K051-04  
 CC 63-6 (Pharmaceuticals)  
 Section cross-reference(s): 1, 9

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 9533491	A1	19951214	WO 1995-US7184	19950605	<--
	W:	AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
	RW:	KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2192384	AA	19951214	CA 1995-2192384	19950605	<--
	AU 9526991	A1	19960104	AU 1995-26991	19950605	<--
	AU 700864	B2	19990114			
	EP 769966	A1	19970502	EP 1995-922233	19950605	<--
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 10508003	T2	19980804	JP 1995-501283	19950605	<--
	US 5716594	A	19980210	US 1996-725060	19961002	<--
	AU 9923742	A1	19990722	AU 1999-23742	19990413	<--
	AU 743255	B2	20020124			
PRAI	US 1994-254260	A	19940606			<--
	US 1994-265516	A	19940624			<--
	AU 1995-26991	A3	19950605			<--
	US 1995-461622	B1	19950605			<--
	WO 1995-US7184	W	19950605			<--
OS	MARPAT 124:185559					
GI						



- AB A compn. for targeting therapeutic and imaging agents to sites of infection and tumors comprises biotin amide analogs (I; R1-5 = H, acyl, alkyl, alkylene, alkenylene, alkynylene, alkenyl, alkynyl; R6 = H, acyl, alkyl, alkylene, alkenylene, alkynylene, alkenyl, alkynyl, conjugated diagnostic or therapeutic agents; X = C:O, S:O, C:NH; n = 2-10). Two 18F-labeled biotin analogs were **prepd.** and their tissue distribution was studied in Escherichia coli-infected rats.
- ST **radiolabeled** biotin analog diagnostic therapeutic; infection tumor targeting biotin analog
- IT Hormones  
 RL: BSU (Biological study, unclassified); BIOL (Biological study) (antagonists; pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)
- IT Nucleotides, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (chemotherapeutic; pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)
- IT Escherichia coli  
 (infections; pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)
- IT Antimalarials  
 Infection  
 Malaria  
 Neoplasm  
 Pharmaceutical dosage forms  
 Tuberculosis  
 Tuberculostatics  
 (pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)
- IT **Peptides**, biological studies  
**Proteins**, biological studies  
**Radioelements**, biological studies  
 Toxins  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)
- IT **Tomography**  
 (NMR, contrast agents, pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)
- IT Imaging  
 (agents, pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)
- IT **Tomography**  
 (contrast agents, pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)
- IT Transition metal compounds  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (heavy, complexes, pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)
- IT Nucleotides, biological studies  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(oligo-, pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)

IT 159761-96-3P 159761-97-4P 159761-99-6P 159762-00-2P  
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)

IT 58-85-5, (+)-Biotin 53906-36-8, (+)-Biotinol 67862-54-8, Fluoride (18F1-) 173923-84-7 173923-85-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)

IT 7440-42-8D, Boron, compds. 13981-56-1, Fluorine 18, biological studies 14119-09-6, Gallium 67, biological studies 14133-76-7, Technetium 99, biological studies 14158-31-7, Iodine 125, biological studies 15715-08-9, Iodine 123, biological studies 15750-15-9, Indium 111, biological studies 15757-14-9, Gallium 68, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)

IT 67862-54-8, Fluoride (18F1-)  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)

RN 67862-54-8 HCAPLUS  
CN Fluoride (18F1-) (9CI) (CA INDEX NAME)

18F-

IT 13981-56-1, Fluorine 18, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(pharmaceutical compns. contg. biotin compds. for targeting tumors and sites of infection)

RN 13981-56-1 HCAPLUS  
CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2003 ACS  
AN 1995:935259 HCAPLUS  
DN 124:49649  
TI Fluorine-18-labeled monoclonal **antibodies** for positron emission **tomographic** imaging  
AU Zalutsky, Michael R.; Vaidyanathan, Ganesan; Garg, Pradeep; Page, Rodney L.  
CS Medical Center, Duke University, Durham, NC, USA  
SO Handbook of Targeted Delivery of Imaging Agents (1995), 665-91.  
Editor(s): Torchilin, Vladimir P. Publisher: CRC, Boca Raton, Fla.  
CODEN: 61XQA8  
DT Conference  
LA English  
CC 8-9 (Radiation Biochemistry)  
AB PET using 18F-labeled monoclonal **antibodies** is discussed. Labeling procedures, biodistribution studies and imaging efficacy are detailed.  
ST PET fluorine 18 monoclonal **antibody**  
IT **Antibodies**

RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(monoclonal, fluoro derivs., labeled with fluorine-18; fluorine-18-labeled monoclonal **antibodies** for positron emission **tomog.** imaging)

IT **Tomography**  
(**positron-emission**, fluorine-18-labeled monoclonal **antibodies** for **positron emission tomog.** imaging)

IT **13981-56-1DP**, Fluorine 18, monoclonal **antibodies** labeled with, biological studies  
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(fluorine-18-labeled monoclonal **antibodies** for positron emission **tomog.** imaging)

IT **13981-56-1DP**, Fluorine 18, monoclonal **antibodies** labeled with, biological studies  
RL: BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(fluorine-18-labeled monoclonal **antibodies** for positron emission **tomog.** imaging)

RN 13981-56-1 HCAPLUS

CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1994:600400 HCAPLUS

DN 121:200400

TI Thrombus detection using **radiolabeled** disintegrins

IN Knight, Linda C.; Maurer, Alan H.

PA Temple University of the Commonwealth System of Higher Education, USA

SO PCT Int. Appl., 62 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C07K013-00

ICS A61K049-02

CC 9-8 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9409036	A1	19940428	WO 1993-US9523	19931005 <--
	W: AT, AU, BB, BG, BR, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, VN				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 5380646	A	19950110	US 1992-965674	19921019 <--
	CA 2147273	AA	19940428	CA 1993-2147273	19931005 <--
	AU 9453215	A1	19940509	AU 1994-53215	19931005 <--
	EP 679162	A1	19951102	EP 1993-923267	19931005 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 08502480	T2	19960319	JP 1993-510101	19931005 <--
PRAI	US 1992-965674		19921019	<--	
	WO 1993-US9523		19931005	<--	
AB	<b>Radiolabeled polypeptides</b> derived from the Viperidae				

disintegrins are provided as well as a method for the detection of venous and arterial thrombi, pulmonary emboli and tumors or abscesses that have a thrombus component. Comps. suitable for parenteral administration comprising the **radiolabeled polypeptides** and a pharmaceutically acceptable carrier are also provided.

**Radiolabeled** disintegrins have low affinity for binding normal vascular endothelia and exhibit low uptake by lung and liver tissue. The latter permits effective imaging of pulmonary emboli. Deep venous thrombi are clearly visible following administration of the **radiolabeled** disintegrin. Using <sup>123</sup>I-labeled bitistatin, imaging was possible as soon as 12 min post-injection. In contrast to most **radiotracers**, the **radiolabeled peptides** of the invention bound to both actively forming and pre-formed thrombi.

ST Viperidae disintegrin **radiolabeled** thrombus imaging

IT Abscess

Neoplasm

(thrombus-assocd., imaging of, **radiolabeled** Viperidae disintegrins for)

IT Thrombus and Blood clot

(venous and arterial, imaging of, **radiolabeled** Viperidae disintegrins for)

IT **Radiography**

(contrast agents, for thrombus detection, **radiolabeled** Viperidae disintegrins for)

IT **Proteins**, specific or class

RL: ANST (Analytical study)

(disintegrins, Viperidae, **radiolabeled**, for imaging of thrombi)

IT Lung, disease

(embolism, imaging of, **radiolabeled** Viperidae disintegrins for)

IT 10043-66-0, Iodine-131, uses **13981-56-1**, Fluorine-18, uses 14119-09-6, Gallium-67, uses 14133-76-7, Technetium-99, uses 14158-31-7, Iodine-125, uses 14885-78-0, Indium-113, uses 15715-08-9, Iodine-123, uses 15750-15-9, Indium-111, uses 15757-14-9, Gallium-68, uses 15765-38-5, Bromine-76, uses

RL: USES (Uses)

(Viperidae disintegrins labeled with, for **radioimaging** of thrombi)

IT 118337-11-4D, Echistatin .alpha.1 (reduced), **radiolabeled** 124542-99-0D, Applaggin (Agkistrodon piscivorus piscivorus subunit reduced), **radiolabeled** 127829-86-1D, Kistrin (reduced), **radiolabeled** 129202-41-1D, Bitistatin 3 (Bitis arietans reduced), **radiolabeled** 130357-67-4D, Batroxostatin (Bothrops atrox venom reduced), **radiolabeled** 133648-00-7D, Albolabrin (Trimeresurus albolabris), **radiolabeled** 133924-16-0D, **radiolabeled** 157938-45-9D, Bitistatin 1 (Bitis arietans), **radiolabeled** 157938-46-0D, Bitistatin 4 (Bitis arietans), **radiolabeled** 157938-47-1D, Trigramin (Trimeresurus gramineus), **radiolabeled** 157938-48-2D, Eristostatin (reduced), **radiolabeled** 157938-49-3D, Agkistrostatin (Agkistrodon piscivorus), **radiolabeled** 157938-50-6D, Elegantin (Trimeresurus elegans), **radiolabeled** 157938-51-7D, Flavoridin (Trimeresurus flavoviridis), **radiolabeled**

RL: ANST (Analytical study)

(for thrombus imaging)

IT **13981-56-1**, Fluorine-18, uses

RL: USES (Uses)

(Viperidae disintegrins labeled with, for **radioimaging** of thrombi)

RN 13981-56-1 HCAPLUS

CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1994:404528 HCAPLUS

DN 121:4528

TI **Radiohalogenation** conjugate technology

IN Zalutsky, Michael R.; Narula, Acharan S.

PA Duke University, USA

SO U.S., 13 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C07K015-28

ICS C07K017-02; A61K049-02

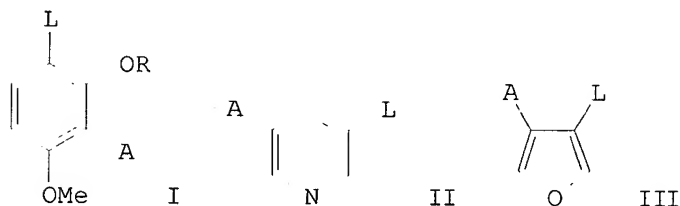
NCL 530391500

CC 9-14 (Biochemical Methods)

Section cross-reference(s): 8, 15, 27, 28, 29

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5302700	A	19940412	US 1988-197246	19880523 <--
PRAI	US 1988-197246		19880523 <--		
OS	MARPAT 121:4528				
GI					



- AB Compds. I, II, III [L = succinimidyl type linking group or  $-C(O)CH:CH_2$ ; A =  $-\text{Sn}(n\text{-C}_4\text{H}_9)_3$ ,  $-\text{Sn}(\text{CH}_3)_3$ ,  $\text{HgCl}$ ,  $\text{N}_2^+$ ; R = H, Me, mono-, di- or oligosaccharide] are provided. The compds. are site-specifically halogenated or **radiohalogenated** at the A group and coupled with macromols. such as monoclonal **antibodies**, **peptides** or other **proteins**. N-succinimidyl-5-tri-n-butylstannyl-3-pyridine carboxylate (SPC) was synthesized in 3 steps from 5-bromo-3-pyridine carboxylic acid and then **radioiodinated** with  $\text{Na}[^{125}\text{I}]$ . The **radioiodinated** SPC was coupled to monoclonal **antibody** -110. The affinity const. of the **radiolabeled** monoclonal **antibody** for carcinoembryonic antigen was 1.25 .times.  $10^9\text{M}^{-1}$ . Use of the SPC method for **radioiodinating antibodies** decreased the thyroid uptake of **radiiodine** when compared to conventional procedures.
- ST **radiohalogenation** macromol succinimidylpyridine carboxylate compd; monoclonal **antibody radioiodination**; **protein radiohalogenation**; **peptide radiohalogenation**
- IT Pharmacokinetics  
(of succinimidylradioiodopyridine carboxylate **protein** conjugates, in vivo)
- IT Macromolecular compounds

**Peptides, reactions****Proteins, reactions**

RL: RCT (Reactant); RACT (Reactant or reagent)

(**radiohalogenation** of, compds. for)

IT Thyroid gland, metabolism

(**radioiodine** uptake by, monoclonal **antibody**

**radioiodination** with succinimidyl iodopyridine carboxylate

compd. in relation to)

IT Antigens

RL: ANST (Analytical study)

(CEA (carcinoembryonic antigen), monoclonal **antibody**-110 to,

**radioiodination** of)

IT **Antibodies**

RL: RCT (Reactant); RACT (Reactant or reagent)

(monoclonal, **radiohalogenation** of, compds. for)

IT 122452-56-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(**prepn.** and (**radio**)halogenation of)

IT 131865-59-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(**prepn.** and **radiohalogenation** of, for

**radiohalogenating** macromols.)

IT 155560-21-7P 155560-22-8P 155560-24-0P 155560-25-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(**prepn.** and reaction of)

IT 39503-50-9P 63638-85-7P, 3-Bromo-2-hydroxy-4-methoxybenzaldehyde

122452-57-7P 122452-58-8P 122452-59-9P, 3-Bromo-2,4-

dimethoxybenzaldehyde 122452-60-2P 122507-19-1P 131865-56-0P

131865-57-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(**prepn.** and reaction of, in **prepn.** of compd. for

**radiohalogenating** macromols.)

IT 3153-76-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(**prepn.** and reaction of, with hydroxysuccinimide)

IT 130168-13-7P 131865-61-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(**prepn.** of)

IT 131865-63-9P 153694-31-6DP, reaction products with monoclonal

**antibody**-110 to carcinoembryonic antigen

RL: SPN (Synthetic preparation); PREP (Preparation)

(**prepn.** of and carcinoembryonic antigen binding affinity for)

IT 153694-31-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(**prepn.** of and monoclonal **antibody**-110

**radioiodination** with)

IT 155560-26-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

(**prepn.** of, for **radioiodinating** macromols.)

IT 7553-56-2, Iodine, reactions 7726-95-6, Bromine, reactions 7782-41-4,

Fluorine, reactions 7782-50-5, Chlorine, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(**radioactive**, reactive compd. **radiolabeling** with, for **radiolabeling** macromols.)

IT 155560-20-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(**radiohalogenation** of, for **radiohalogenating** macromols.)

IT 673-22-3, 2-Hydroxy-4-methoxybenzaldehyde 20826-04-4, 5-Bromo-3-pyridine  
carboxylic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, in **prepn.** of compd. for  
**radiohalogenating** macromols.)

IT 10043-66-0, Iodine-131, reactions **13981-56-1**, Fluorine-18,  
reactions 14158-31-7, Iodine-125, reactions 14809-47-3, Bromine-75,  
reactions 15715-08-9, Iodine-123, reactions 15755-39-2, Astatine-211,  
reactions 15765-38-5, Bromine-76, reactions 15765-39-6, Bromine-77,  
reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactive compd. **radiolabeling** with, for  
**radiolabeling** macromols.)

IT **13981-56-1**, Fluorine-18, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reactive compd. **radiolabeling** with, for  
**radiolabeling** macromols.)

RN 13981-56-1 HCAPLUS  
CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2003 ACS  
AN **1993:503323** HCAPLUS  
DN **119:103323**  
TI Diagnosis and treatment of cancer with epidermal growth factor conjugates  
IN Leung, Frederick C.; Fisher, Darrell R.; Thompson, Michael R.; Harvey,  
Scott D.  
PA Battelle Memorial Institute, USA  
SO PCT Int. Appl., 51 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC ICM A61K049-00  
ICS A61K043-00  
CC 63-5 (Pharmaceuticals)  
Section cross-reference(s): 1, 8  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9309816	A1	19930527	WO 1992-US9874	19921116 <--
	W: AU, BR, CA, JP, KP, KR, NO, PL, RU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
	AU 9331778	A1	19930615	AU 1993-31778	19921116 <--
	EP 614377	A1	19940914	EP 1993-900522	19921116 <--
	R: DE, DK, FR, GB, IT, SE				
	JP 07501332	T2	19950209	JP 1992-509460	19921116 <--
PRAI	US 1991-792181		19911114 <--		
	WO 1992-US9874		19921116 <--		
AB	Epidermal growth factor (EGF) conjugates are used for diagnosis and treatment of cancer. The conjugates are with .alpha.-emitting <b>radionuclides</b> , non-radioactive I, oxyanion of a metal and a <b>radioactive</b> isotope. Murine EGF was treated with <sup>131</sup> I Na and EGF- <sup>131</sup> I (I) conjugates were sepd. Human cervical epidermoid carcinoma cell lines were exposed to I and cultured for 5 days. Cell exposed to I had significantly fewer viable cells as compared to those exposed to free <sup>131</sup> I or unlabeled EGF.				
ST	EGF <b>radionuclide</b> conjugate neoplasm inhibitor; epidermal growth factor conjugate cancer; iodine EGF conjugate neoplasm inhibitor				
IT	Disulfides				

- RL: BIOL (Biological study)  
(conjugates with epidermal growth factors and **radionuclides**, neoplasm inhibitors)
- IT Sequestering agents  
(conjugates with with epidermal growth factors and **radionuclides**, neoplasm inhibitors)
- IT Neoplasm inhibitors  
(epidermal growth factors conjugates with .alpha.-emitting **radionuclides** or non-**radioactive** iodine or oxyanion of metals or **radioactive** isotopes)
- IT Gamma ray  
(**radioactive** isotope emitting, conjugates with epidermal growth factors, neoplasm inhibitors)
- IT **Radioelements**, compounds  
RL: BIOL (Biological study)  
(conjugates, with growth factors, for neoplasm inhibitors and neoplasm diagnosis)
- IT Carboxylic acids, biological studies  
RL: BIOL (Biological study)  
(di-, conjugates with epidermal growth factors and **radionuclides**, neoplasm inhibitors)
- IT Crown compounds  
RL: BIOL (Biological study)  
(ethers, conjugates with epidermal growth factors and **radionuclides**, neoplasm inhibitors)
- IT Anions  
(oxy-, of metals, conjugates with epidermal growth factors, neoplasm inhibitors)
- IT Animal growth regulators  
RL: BIOL (Biological study)  
(.alpha.-transforming growth factors, conjugates with .alpha.-emitting **radionuclides** or non-**radioactive** iodine or oxyanion of metals or **radioactive** isotopes)
- IT 124-09-4, 1,6-Hexanediamine, biological studies  
RL: BIOL (Biological study)  
(as linker, in growth factor conjugates as neoplasm inhibitors)
- IT 62031-54-3, Fibroblast growth factor  
RL: BIOL (Biological study)  
(conjugates with .alpha.-emitting **radionuclides** or non-**radioactive** iodine or oxyanion of metals or **radioactive** isotopes)
- IT 14133-76-7D, Technetium-99, conjugates with epidermal growth factors  
RL: BIOL (Biological study)  
(metastable, neoplasm inhibitor)
- IT **7439-96-5D**, Manganese, conjugates with epidermal growth factors  
**7439-98-7D**, Molybdenum, conjugates with epidermal growth factors  
**7440-15-5D**, Rhenium, conjugates with epidermal growth factors  
**7440-26-8D**, Technetium, conjugates with epidermal growth factors **7440-33-7D**, Tungsten, conjugates with epidermal growth factors **7440-47-3D**, Chromium, conjugates with epidermal growth factors **7440-62-2D**, Vanadium, conjugates with epidermal growth factors **7553-56-2D**, Iodine, conjugates with animal growth factors **10043-49-9D**, Gold-198, conjugates with epidermal growth factors **10043-66-0D**, Iodine-131, conjugates with epidermal growth factors **10098-91-6D**, Yttrium-90, conjugates with epidermal growth factors **13233-32-4D**, **Radium-224**, conjugates with epidermal growth factors **13494-80-9D**, Tellurium, conjugates with epidermal growth factors **13981-25-4D**, Copper-64, conjugates with epidermal growth factors **13981-27-6D**, Zirconium-89, conjugates with epidermal growth factors **13981-51-6D**, Mercury-197, conjugates with epidermal growth factors **13981-52-7D**, Polonium-210, conjugates with epidermal growth factors **13981-56-1D**, Fluorine-18, conjugates with epidermal growth factors **13982-22-4D**, Gallium-72, conjugates with epidermal growth factors **13982-78-0D**, Mercury-203, conjugates with

epidermal growth factors 14093-04-0D, Iron-52, conjugates with epidermal growth factors 14119-08-5D, Gallium-66, conjugates with epidermal growth factors 14119-09-6D, Gallium-67, conjugates with epidermal growth factors 14158-30-6D, Iodine-124, conjugates with epidermal growth factors 14158-31-7D, Iodine-125, conjugates with epidermal growth factors 14265-71-5D, Selenium-75, conjugates with epidermal growth factors 14265-85-1D, Actinium-225, conjugates with epidermal growth factors 14378-26-8D, conjugates with epidermal growth factors 14391-11-8D, Gold-199, conjugates with epidermal growth factors 14392-02-0D, Chromium-51, conjugates with epidermal growth factors 14687-25-3D, Lead-203, conjugates with epidermal growth factors 14913-49-6D, Bismuth-212, conjugates with epidermal growth factors 14913-89-4D, conjugates with epidermal growth factors 14998-63-1D, Rhenium-186, conjugates with epidermal growth factors 15092-94-1D, Lead-212, conjugates with epidermal growth factors 15623-45-7D, **Radium-223**, conjugates with epidermal growth factors 15715-08-9D, Iodine-123, conjugates with epidermal growth factors 15735-86-1D, Polonium-206, conjugates with epidermal growth factors 15750-15-9D, Indium-111, conjugates with epidermal growth factors 15755-39-2D, Astatine-211, conjugates with epidermal growth factors 15756-57-7D, Polonium-213, conjugates with epidermal growth factors 15757-14-9D, Gallium-68, conjugates with epidermal growth factors 15757-86-5D, Copper-67, conjugates with epidermal growth factors 15758-35-7D, Ruthenium-97, conjugates with epidermal growth factors 15765-38-5D, Bromine-76, conjugates with epidermal growth factors 15765-39-6D, Bromine-77, conjugates with epidermal growth factors 15776-19-9D, Bismuth-206, conjugates with epidermal growth factors 15776-20-2D, conjugates with epidermal growth factors 62229-50-9D, Epidermal growth factor, conjugates with .alpha.-emitting **radionuclides**

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(neoplasm inhibitor)

IT 9061-61-4D, Nerve growth factor, conjugates with .alpha.-emitting **radionuclides** 17455-13-9D, 18-Crown-6-ether, conjugates with epidermal growth factors and **radionuclides** 33089-36-0D, 21-Crown-7-ether, conjugates with epidermal growth factors and **radionuclides** 67763-96-6D, Insulin like growth factor I, conjugates with .alpha.-emitting **radionuclides** 67763-97-7D, Insulin like growth factor II, conjugates with .alpha.-emitting **radionuclides**

RL: BIOL (Biological study)  
(neoplasm inhibitors)

IT **7439-96-5D**, Manganese, conjugates with epidermal growth factors **13981-56-1D**, Fluorine-18, conjugates with epidermal growth factors

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(neoplasm inhibitor)

RN 7439-96-5 HCAPLUS

CN Manganese (8CI, 9CI) (CA INDEX NAME)

Mn

RN 13981-56-1 HCAPLUS

CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

<sup>18</sup>F

DN 117:247833  
 TI Localization of fluorine-18-labeled Mel-14 monoclonal **antibody**  
**F(ab)**2 fragment in a subcutaneous xenograft model  
 AU Garg, Pradeep K.; Garg, Sudha; Bigner, Darell D.; Zalutsky, Michael R.  
 CS Med. Cent., Duke Univ., Durham, NC, 27710, USA  
 SO Cancer Research (1992), 52(18), 5054-60  
 CODEN: CNREA8; ISSN: 0008-5472  
 DT Journal  
 LA English  
 CC 8-9 (Radiation Biochemistry)  
 Section cross-reference(s): 14  
 AB Positron emission **tomog.** is an imaging method that might improve  
 the effectiveness of **radioimmunoscintigraphy** and might provide  
 more accurate ests. of monoclonal **antibody** dosimetry prior to  
 therapy. Because of its widespread availability, 2-h half-life 18F could  
 be a useful nuclide for labeling monoclonal **antibody** fragments,  
 provided that adequate tumor uptake and satisfactory tumor-to-normal  
 tissue ratios could be achieved rapidly. In this study, the tissue  
 distribution of 18F-labeled Mel-14 **F(ab')**2, a  
 monoclonal **antibody** reactive with gliomas, was evaluated in a  
 s.c. athymic mouse human glioma xenograft model. 18F labeling was  
 performed using N-succinimidyl-8-(4'-[18F]fluorobenzylamino)suberate. For  
 paired-label comparisons both in vitro and in vivo, Mel-14 **F(**  
**ab')**2 was also labeled using N-succinimidyl 3- [125I]iodobenzoate.  
 When 100-120 .mu.g of disuccinimidyl substrate was used in the 18F-labeled  
 acylation agent synthesis, the binding of 18F-labeled Mel-14 **F(**  
**ab')**2 to glioma homogenates was comparable to that of the  
**radioiodinated** fragment. Scatchard analyses indicated nearly  
 identical affinity consts. for fragments with both labels (18F, 6.4  
 .times. 108M-1; 125I, 6.7 .times. 108M-1). Tumor levels of 18F increased  
 at 1-2 h and then were relatively const. at 2-6 h. When lower levels of  
 disuccinimidyl substrate were used, there was an excellent correlation  
 between 18F and 125I tumor uptake. At 4 h, tumor-to-normal tissue ratios  
 for 18F-labeled Mel-14 **F(ab')**2 in liver, spleen,  
 muscle, and brain were 2.3, 4.2, 14, and 40, resp. Localization indexes,  
 detd. by comparison with 118F-labeled nonspecific **F(ab**  
**')**2, were 3.7 at 4 h and 6.9 at 6 h for tumor and .apprx.1 for normal  
 tissues, indicating the specificity of 18F-labeled Mel-14 **F(**  
**ab')**2 tumor uptake.  
 ST positron emission **tomog** tumor fluorine 18; monoclonal  
**antibody** fragment positron emission **tomog**  
 IT Neoplasm  
 (positron emission **tomog.** of, with fluorine-18-labeled  
 monoclonal **antibody** **F(ab')**2 fragment)  
 IT Immunoglobulins  
 RL: BIOL (Biological study)  
 (G2a, monoclonal, fluorine-18-labeled **F(ab')**2  
 fragment of, positron emission **tomog.** with, of tumor)  
 IT **Antibodies**  
 RL: BIOL (Biological study)  
 (monoclonal, fluorine-18-labeled **F(ab')**2 fragment  
 of, positron emission **tomog.** with, of tumor)  
 IT **Tomography**  
 (positron-emission, of tumor, with  
 fluorine-18-labeled monoclonal **antibody** **F(**  
**ab')**2 fragment)  
 IT 131865-55-9  
 RL: BIOL (Biological study)  
 (monoclonal **antibody** **F(ab')**2 fragment  
 labeling with, for positron emission **tomog.** of tumor)  
 IT 13981-56-1D, Fluorine-18, monoclonal **antibody** **F**  
**(ab')**2 fragment labeled with, biological studies  
 RL: BIOL (Biological study)

(positron emission **tomog.** with, of tumor)  
 IT 13981-56-1D, Fluorine-18, monoclonal **antibody F**  
 (ab')<sub>2</sub> fragment labeled with, biological studies  
 RL: BIOL (Biological study)  
 (positron emission **tomog.** with, of tumor)  
 RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1992:566797 HCAPLUS  
 DN 117:166797  
 TI Fluorine-18-labeled monoclonal **antibody** fragments: a potential  
 approach for combining **radioimmunosciintigraphy** and positron  
 emission **tomography**  
 AU Vaidyanathan, Ganesan; Bigner, Darell D.; Zalutsky, Michael R.  
 CS Med. Cent., Duke Univ., Durham, NC, 27710, USA  
 SO Journal of Nuclear Medicine (1992), 33(8), 1535-41  
 CODEN: JNMEAQ; ISSN: 0161-5505  
 DT Journal  
 LA English  
 CC 8-9 (Radiation Biochemistry)  
 Section cross-reference(s): 14  
 AB Monoclonal **antibody** fragments labeled with 18F could be useful  
 for PET if selective tumor uptake could be achieved within a few  
 half-lives of this nuclide. To evaluate this possibility, the F  
 (ab')<sub>2</sub> fragment of Mel-14, an **antibody** reactive with  
 gliomas and other tumors, was labeled by reaction with N-succinimidyl  
 -4-[18F]fluorobenzoate. The in-vitro binding properties of 18F-labeled  
 Mel-14 F(ab')<sub>2</sub> were nearly identical to those obsd.  
 when this F(ab')<sub>2</sub> was labeled by reaction with  
 N-succinimidyl -4-[125I]iodobenzoate [18F, affinity const. = 6.7 .times.  
 108M-1; 125I, affinity const. = 8.8 .times. 108M-1]. The tissue  
 distribution of the 2 labeled fragments was compared in paired-label  
 studies performed in athymic mice with s.c. D-54 MG human glioma  
 xenografts. Uptake of both nuclides in tumor was rapid, with levels as  
 high as 18.7% injected dose/g for 18F and 19.4% injected dose/g for 225I  
 obsd. by 4 h after injection. Tumor-to-normal tissue ratios for  
 18F-labeled Mel-14 F(ab')<sub>2</sub> at 4 h ranged from 0.8:1  
 for kidneys to 40:1 for brain. It may be feasible to use 18F-labeled  
**antibody** fragments for imaging tumors with PET.  
 ST fluorine 18 monoclonal **antibody** tumor; positron emission  
**tomog** tumor **antibody** fragment  
 IT Neoplasm, metabolism  
 (fluorine-18-labeled monoclonal **antibody F**(  
 ab')<sub>2</sub> fragment metab. by, positron emission **tomog.** in  
 relation to)  
 IT Dosimetry  
 (of fluorine-18-labeled monoclonal **antibody F**(  
 ab')<sub>2</sub> fragment, in normal organs and tumor, positron emission  
**tomog.** in relation to)  
 IT **Antibodies**  
 RL: BIOL (Biological study)  
 (monoclonal, fluorine-18-labeled F(ab')<sub>2</sub> fragment  
 of, metab. and biodistribution of, in tumor, positron emission  
**tomog.** in relation to)  
 IT **Tomography**  
 (positron-emission, of tumor, fluorine-18-labeled  
 monoclonal **antibody F**(ab')<sub>2</sub> fragment

metab. and biodistribution studies in relation to)  
 IT 12585-85-2  
 RL: BIOL (Biological study)  
 (dosimetry, of fluorine-18-labeled monoclonal **antibody**  
**F(ab')<sub>2</sub>** fragment, in normal organs and tumor,  
 positron emission **tomog.** in relation to)  
 IT 13981-56-1, Fluorine-18, biological studies  
 RL: BIOL (Biological study)  
 (monoclonal **antibody F(ab')<sub>2</sub>** fragment  
 labeled with, metab. and biodistribution of, in tumor, positron  
 emission **tomog.** in relation to)  
 IT 141762-27-8  
 RL: BIOL (Biological study)  
 (monoclonal **antibody F(ab')<sub>2</sub>** fragment  
 labeling with, for tumor positron emission **tomog.**)  
 IT 13981-56-1, Fluorine-18, biological studies  
 RL: BIOL (Biological study)  
 (monoclonal **antibody F(ab')<sub>2</sub>** fragment  
 labeled with, metab. and biodistribution of, in tumor, positron  
 emission **tomog.** in relation to)  
 RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1991:674750 HCAPLUS  
 DN 115:274750  
 TI **Antibody** fragments labeled with fluorine-18 and gallium-68: in  
 vivo comparison with indium-111 and iodine-125-labeled fragments  
 AU Otsuka, Fyllis L.; Welch, Michael J.; Kilbourn, Michael R.; Dence, Carmen  
 S.; Dilley, William G.; Wells, Samuel A., Jr.  
 CS Sch. Med., Washington Univ., St. Louis, MO, 63110, USA  
 SO Nuclear Medicine and Biology (1991), 18(7), 813-16  
 CODEN: NMBIEO; ISSN: 0883-2897  
 DT Journal  
 LA English  
 CC 8-9 (Radiation Biochemistry)  
 AB Although monoclonal **antibodies** have been **radiolabeled**  
 with many different **radionuclides**, the application of positron  
 emission **tomog.** (PET) to the imaging of  
**radiolabeled antibodies** has been limited to the  
 investigation of a small no. of long-lived **radionuclides**. In  
 this study, **F(ab')<sub>2</sub>** fragments of a mouse monoclonal  
**antibody** (BB5-G1) specific for a human parathyroid surface antigen  
 were labeled with the positron emitting **radionuclides**,  
 gallium-68 and fluorine-18. The biodistribution of the fragments was  
 evaluated in a nude mice model and the results were compared to those  
 obtained with fragments labeled with iodine-125 and indium-111 using  
 conventional labeling techniques. All labeled fragments bound to human  
 parathyroid tissue implanted in nude mice, with parathyroid-to-muscle  
 ratios reaching as high as 10:1, 4 h after administration. A major  
 difference was obsd. in the uptake and clearance of the various labeled  
 fragments through the kidney. The halogen activity cleared, but the metal  
**radioactivity** was retained in the kidney. The results indicate  
 that fluorine-18 or gallium-68 labeled fragment may be useful for  
 parathyroid imaging with positron emission **tomog.**  
 ST fluorine 18 **antibody** fragment positron **tomog**; gallium  
 68 monoclonal **antibody** parathyroid  
 IT Parathyroid gland

(fluorine-18- and gallium-68-labeled monoclonal **antibody** fragments metab. by, positron emission **tomog.** in relation to)

IT **Antibodies**  
 RL: BIOL (Biological study)  
 (monoclonal, fluorine-18- and gallium-68-labeled **F(ab**  
 ')2 fragments of, metab. and biodistribution of, positron emission  
**tomog.** of parathyroid gland in relation to)

IT **Tomography**  
 (positron-emission, of parathyroid gland,  
 fluorine-18- and gallium-68-labeled monoclonal **antibody**  
 fragments metab. and biodistribution in relation to)

IT **13981-56-1D**, Fluorine-18, monoclonal **antibody** fragments  
 labeled with, biological studies 15757-14-9D, Gallium-68, monoclonal  
**antibody** fragments labeled with, biological studies  
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL  
 (Biological study); PROC (Process)  
 (metab. and biodistribution of, positron emission **tomog.** of  
 parathyroid gland in relation to)

IT **13981-56-1D**, Fluorine-18, monoclonal **antibody** fragments  
 labeled with, biological studies  
 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL  
 (Biological study); PROC (Process)  
 (metab. and biodistribution of, positron emission **tomog.** of  
 parathyroid gland in relation to)

RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1991:400778 HCAPLUS

DN 115:778

TI Covalently-linked complexes and methods for enhanced cytotoxicity and  
imagingIN Anderson, David C.; Morgan, A. Charles; Abrams, Paul G.; Nichols, Everett  
J.; Fritzberg, Alan R.

PA NeoRx Corp., USA

SO Eur. Pat. Appl., 23 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM A61K047-00

ICS A61K049-02; A61K043-00

CC 1-6 (Pharmacology)

Section cross-reference(s): 8, 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 359347	A2	19900321	EP 1989-250014	19890814 <--
	EP 359347	A3	19900418		
	EP 359347	B1	19921223		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	US 5135736	A	19920804	US 1988-232337	19880815 <--
	US 5169933	A	19921208	US 1989-390241	19890807 <--
	CA 1334513	A1	19950221	CA 1989-608198	19890811 <--
	JP 02124833	A2	19900514	JP 1989-209992	19890814 <--
	AT 83669	E	19930115	AT 1989-250014	19890814 <--
PRAI	US 1988-232337		19880815	<--	
	EP 1989-250014		19890814	<--	
AB	Covalently-linked complexes (CLCs) for targeting a defined population of				

cells comprise a targeting **protein** (e.g. **antibody**, hormone, enzyme, etc.), a cytotoxic agent (e.g. **radionuclide**, toxin, drug, etc.) an enhancing moiety capable of enhancing CLC-target cell interaction (e.g. a translocating/internalizing moiety, an anchoring **peptide**, membrane-sol. hydrophobic mol., etc.). The CLCs are used to enhance in vivo cytotoxicity and imaging (no data). Translocating **peptide**, Cys-Gly-Glu-Ala-Ala-Leu-Ala(Glu-Ala-Leu-Ala)<sub>4</sub>-Glu-Ala-Leu-Glu-Ala-Leu-Ala-Ala-NH<sub>2</sub>, is conjugated via succinimidyl 4(N-maleimidemethyl)cyclohexane-1-carboxylate (SMCC) to reduced toxin A chain. The conjugate is reacted with iminothiolane to generate further thiol groups which are then bonded to reduced **antibody** to prep. translocating **peptide**-ricin A chain-**antibody** CLC.

- ST targeting **protein** cytotoxin enhancer conjugate; translocating **peptide** ricin **antibody** conjugate; imaging **radionuclide** targeting **protein** enhancer conjugate
- IT Animal cell
  - (agents enhancing covalently-linked complex interaction with, conjugates with cytotoxic agent and targeting **protein**)
- IT Clathrins
  - RL: BIOL (Biological study)
  - (**antibodies** to, conjugates with cytotoxic agent and targeting **protein**)
- IT Antigens
  - RL: BIOL (Biological study)
  - (**antibody** to binding region of, conjugates with cytotoxic agent and target cell interaction enhancers)
- IT Pokeweed
  - (antiviral **proteins** of, conjugates with targeting **protein** and target cell interaction enhancer)
- IT **Antibodies**
  - RL: BIOL (Biological study)
  - (as targeting **protein** in conjugates with cytotoxic agent and target cell interaction enhancers)
- IT Anesthetics
  - Animal growth regulators
  - RL: BIOL (Biological study)
  - (conjugates with cytotoxic agent and targeting **protein**)
- IT Cytotoxic agents
  - Fluorescent substances
  - Pharmaceuticals
  - Toxins
  - RL: BIOL (Biological study)
  - (conjugates with targeting **protein** and target cell interaction enhancer)
- IT Pseudomonas
  - (exotoxin A of, conjugates with targeting **protein** and target cell interaction enhancer)
- IT Virus
  - (fusion **peptide** anchoring sequences of, conjugates with cytotoxic agent and targeting **protein**)
- IT Membrane, biological
  - (mol. sol. in, conjugates with cytotoxic agent and targeting **protein**)
- IT Venoms
  - (**peptides** of, of snake, conjugates with targeting **protein** and target cell interaction enhancer)
- IT Barley
  - (toxins of, conjugates with targeting **protein** and target cell interaction enhancer)
- IT Snake
  - (venom **peptides** of, conjugates with targeting **protein** and target cell interaction enhancer)

- IT **Radioelements**, compounds  
RL: BIOL (Biological study)  
(Auger electron-emitting, conjugates, with targeting **protein** and target cell interaction enhancer)
- IT Virus, animal  
(Sendai, fusion **peptide** anchoring sequences of, conjugates with cytotoxic agent and targeting **protein**)
- IT Toxins  
RL: BIOL (Biological study)  
(Shiga, conjugates with targeting **protein** and target cell interaction enhancer)
- IT **Radioelements**, compounds  
RL: BIOL (Biological study)  
(X-ray-emitting, conjugates, with targeting **protein** and target cell interaction enhancer)
- IT **Radioelements**, compounds  
RL: BIOL (Biological study)  
(alpha-particle-emitting, conjugates, with targeting **protein** and target cell interaction enhancer)
- IT Fatty acids, compounds  
RL: BIOL (Biological study)  
(analog, conjugates, with cytotoxic agent and targeting **protein**)
- IT **Proteins**, specific or class  
RL: BIOL (Biological study)  
(antiviral, of pokeweed, conjugates with targeting **protein** and target cell interaction enhancer)
- IT Lipoproteins  
RL: BIOL (Biological study)  
(apo-, A-I, conjugates, with cytotoxic agent and targeting **protein**)
- IT Lipoproteins  
RL: BIOL (Biological study)  
(apo-, B, conjugates, with cytotoxic agent and targeting **protein**)
- IT **Radioelements**, compounds  
RL: BIOL (Biological study)  
(beta-particle-emitting, conjugates, with targeting **protein** and target cell interaction enhancer)
- IT Avidins  
Enzymes  
**Peptides**, compounds  
RL: BIOL (Biological study)  
(conjugates, with cytotoxic agent and target cell interaction enhancers, for cell targeting for enhanced cytotoxicity)
- IT Bile acids  
Estrogens  
Fatty acids, compounds  
Phospholipids, compounds  
Transferrins  
RL: BIOL (Biological study)  
(conjugates, with cytotoxic agent and targeting **protein**)
- IT Leupeptins  
Phosphatidylinositols  
RL: BIOL (Biological study)  
(conjugates, with cytotoxic agent and targeting **protein**, cell targeting with, for enhanced cytotoxicity and imaging)
- IT Abrins  
**Radioelements**, compounds  
Ricins  
RL: BIOL (Biological study)  
(conjugates, with targeting **protein** and target cell interaction enhancer)

- IT **Radiography**  
Scintigraphy  
**Tomography**  
(contrast agents, covalently linked complexes contg. cytotoxic agent and targeting **protein** and enhancing moiety as)
- IT Toxins  
RL: BIOL (Biological study)  
(cyto-, conjugates with targeting **protein** and target cell interaction enhancer)
- IT Toxins  
RL: BIOL (Biological study)  
(diphtheria, conjugates with targeting **protein** and target cell interaction enhancer)
- IT Toxins  
RL: BIOL (Biological study)  
(exo-, A, of Pseudomonas, conjugates with targeting **protein** and target cell interaction enhancer)
- IT **Proteins**, specific or class  
RL: BIOL (Biological study)  
(fusion products, conjugates, with cytotoxic agent and targeting **protein**)
- IT Carbohydrates and Sugars, compounds  
RL: BIOL (Biological study)  
(galactose-contg., conjugates, with cytotoxic agent and targeting **protein**)
- IT **Radioelements**, compounds  
RL: BIOL (Biological study)  
(gamma-ray-emitting, conjugates, with targeting **protein** and target cell interaction enhancer)
- IT Ribonucleic acid formation factors  
RL: BIOL (Biological study)  
(gene tat, conjugates with cytotoxic agent and targeting **protein**)
- IT Carbohydrates and Sugars, compounds  
RL: BIOL (Biological study)  
(glucose-contg., conjugates, with cytotoxic agent and targeting **protein**)
- IT Virus, animal  
(human immunodeficiency, fusion **peptide** anchoring sequences of, conjugates with cytotoxic agent and targeting **protein**)
- IT Virus, animal  
(measles, fusion **peptide** anchoring sequences of, conjugates with cytotoxic agent and targeting **protein**)
- IT Glycerides, compounds  
RL: BIOL (Biological study)  
(medium-chain, conjugates, with cytotoxic agent and targeting **protein**)
- IT **Antibodies**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(monoclonal, conjugates with chelated **radiolabel** and anchoring **peptide**, **prepn.** of, for cell targeting)
- IT Virus, animal  
(murine mammary tumor, fusion **peptide** anchoring sequences of, conjugates with cytotoxic agent and targeting **protein**)
- IT Toxins  
RL: BIOL (Biological study)  
(pertussis, conjugates with targeting **protein** and target cell interaction enhancer)
- IT **Proteins**, specific or class  
RL: BIOL (Biological study)  
(pore-forming, conjugates, with cytotoxic agent and targeting **protein**)
- IT **Radioelements**, compounds

- RL: BIOL (Biological study)  
(positron-emitting, conjugates, with targeting **protein** and target cell interaction enhancer)
- IT Virus, animal  
(respiratory syncytial, fusion **peptide** anchoring sequences of, conjugates with cytotoxic agent and targeting **protein**)
- IT **Proteins**, specific or class  
RL: BIOL (Biological study)  
(saporins, conjugates, with targeting **protein** and target cell interaction enhancer)
- IT **Peptides**, compounds  
RL: BIOL (Biological study)  
(signal, conjugates, with cytotoxic agent and targeting **protein**)
- IT Virus, animal  
(simian immunodeficiency, fusion **peptide** anchoring sequences of, conjugates with cytotoxic agent and targeting **protein**)
- IT Virus, animal  
(simian retro-, fusion **peptide** anchoring sequences of, conjugates with cytotoxic agent and targeting **protein**)
- IT Biological transport  
(translocation, agents for, conjugates with cytotoxic agent and targeting **protein**)
- IT **Proteins**, specific or class  
RL: BIOL (Biological study)  
(tritins, conjugates, with targeting **protein** and target cell interaction enhancer)
- IT Virus, animal  
(visna, fusion **peptide** anchoring sequences of, conjugates with cytotoxic agent and targeting **protein**)
- IT Hemolysins  
RL: BIOL (Biological study)  
(.delta.-, conjugates, with cytotoxic agent and targeting **protein**)
- IT Carbohydrates and Sugars, compounds  
RL: BIOL (Biological study)  
(N-acetylglucosamine-contg., conjugates, with cytotoxic agent and targeting **protein**)
- IT 50-18-0D, Cyclophosphamide, conjugates with targeting **protein** and target cell interaction enhancer 51-21-8D, 5-Fluorouracil, conjugates with targeting **protein** and target cell interaction enhancer 54-42-2D, Iododeoxyuridine, conjugates with targeting **protein** and target cell interaction enhancer 56-81-5D, 1,2,3-Propanetriol, conjugates with cytotoxic agent and targeting **protein** 59-05-2D, Methotrexate, conjugates with targeting **protein** and target cell interaction enhancer 59-43-8D, Thiamine, conjugates with cytotoxic agent and targeting **protein** 66-72-8D, Pyridoxal, conjugates with cytotoxic agent and targeting **protein** 79-83-4D, Pantothenic acid, conjugates with cytotoxic agent and targeting **protein** 112-79-8D, Elaidic acid, conjugates with cytotoxic agent and targeting **protein** 123-39-7D, N-Methylformamide, conjugates with targeting **protein** and target cell interaction enhancer 128-13-2D, Ursodeoxycholic acid, conjugates with cytotoxic agent and targeting **protein** 133-89-1D, UDP-glucose, conjugates with cytotoxic agent and targeting **protein** 135-16-0D, conjugates with cytotoxic agent and targeting **protein** 137-58-6D, Lidocaine, conjugates with cytotoxic agent and targeting **protein** 145-63-1D, Suramin, conjugates with targeting **protein** and target cell interaction enhancer 147-94-4D, Cytarabine, conjugates with targeting **protein** and target cell interaction enhancer 148-82-3D, Melphalan, conjugates with targeting **protein** and target cell interaction enhancer 154-42-7D, 6-Thioguanine, conjugates with targeting **protein** and

target cell interaction enhancer 320-67-2D, Azacitidine, conjugates with targeting **protein** and target cell interaction enhancer 459-86-9D, Mitoguazone, conjugates with targeting **protein** and target cell interaction enhancer 474-25-9D, Chenodeoxycholic acid, conjugates with cytotoxic agent and targeting **protein** 512-64-1D, Echinomycin, conjugates with targeting **protein** and target cell interaction enhancer 528-04-1D, conjugates with cytotoxic agent and targeting **protein** 528-74-5D, Dichloromethotrexate, conjugates with targeting **protein** and target cell interaction enhancer 544-63-8D, Tetradecanoic acid, conjugates with cytotoxic agent and targeting **protein** 645-05-6D, Hexamethylmelamine, conjugates with targeting **protein** and target cell interaction enhancer 693-72-1D, trans-Vaccenic acid, conjugates with cytotoxic agent and targeting **protein** 865-21-4D, Vinblastine, conjugates with targeting **protein** and target cell interaction enhancer 2956-16-3D, UDP-galactose, conjugates with cytotoxic agent and targeting **protein** 3063-71-6D, conjugates with cytotoxic agent and targeting **protein** 3375-50-6D, conjugates with targeting **protein** and target cell interaction enhancer 3616-06-6D, UDP-xylose, conjugates with cytotoxic agent and targeting **protein** 3672-15-9D, Mannose-6-phosphate, conjugates with cytotoxic agent and targeting **protein** 3778-73-2D, Ifosfamide, conjugates with targeting **protein** and target cell interaction enhancer 4005-51-0D, 2-Amino-1,3,4-thiadiazole, conjugates with targeting **protein** and target cell interaction enhancer 6082-29-7D, conjugates with cytotoxic agent and targeting **protein** 6990-06-3D, Fusidic acid, conjugates with cytotoxic agent and targeting **protein** 7440-16-6D, Rhodium, conjugates with targeting **protein** and target cell interaction enhancer 7481-89-2D, Dideoxycytidine, conjugates with targeting **protein** and target cell interaction enhancer 9002-64-6D, Parathyroid hormone, conjugates with cytotoxic agent and targeting **protein** 9004-10-8D, Insulin, conjugates with cytotoxic agent and targeting **protein** 9007-12-9D, Calcitonin, conjugates with cytotoxic agent and targeting **protein** 9007-92-5D, Glucagon, conjugates with cytotoxic agent and targeting **protein** 9015-68-3D, Asparaginase, conjugates with targeting **protein** and target cell interaction enhancer 10043-49-9D, Gold-198, conjugates with targeting **protein** and target cell interaction enhancer 10043-66-0D, Iodine-131, conjugates with targeting **protein** and target cell interaction enhancer 10098-91-6D, Yttrium-90, conjugates with targeting **protein** and target cell interaction enhancer 10318-26-0D, Dibromodulcitol, conjugates with targeting **protein** and target cell interaction enhancer 11056-06-7D, Bleomycin, conjugates with targeting **protein** and target cell interaction enhancer 13494-90-1D, Gallium nitrate, conjugates with targeting **protein** and target cell interaction enhancer 13551-87-6D, Misonidazole, conjugates with targeting **protein** and target cell interaction enhancer 13909-02-9D, 1-(2-Chloroethyl)-3-(2,6-dioxo-3-piperidyl)-1-nitrosourea, conjugates with targeting **protein** and target cell interaction enhancer 13909-09-6D, Semustine, conjugates with targeting **protein** and target cell interaction enhancer 13981-22-1D, Nitrogen-13, conjugates with targeting **protein** and target cell interaction enhancer 13981-25-4D, Copper-64, conjugates with targeting **protein** and target cell interaction enhancer 13981-51-6D, Mercury-197, conjugates with targeting **protein** and target cell interaction enhancer 13981-56-1D, Fluorine-18, conjugates with targeting **protein** and target cell interaction enhancer 13982-43-9D, Oxygen-15, conjugates with targeting **protein** and target cell interaction enhancer 14119-09-6D, Gallium-67, conjugates with targeting **protein** and target cell interaction enhancer 14158-31-7D, Iodine-125, conjugates with targeting **protein** and target cell interaction enhancer 14333-33-6D, Carbon-11, conjugates with

targeting **protein** and target cell interaction enhancer  
14378-26-8D, Rhenium-188, conjugates with targeting **protein** and  
target cell interaction enhancer 14378-53-1D, Rhodium-101, conjugates  
with targeting **protein** and target cell interaction enhancer  
14391-96-9D, Scandium-47, conjugates with targeting **protein** and  
target cell interaction enhancer 14687-25-3D, Lead-203, conjugates with  
targeting **protein** and target cell interaction enhancer  
14769-73-4D, Levamisole, conjugates with targeting **protein** and  
target cell interaction enhancer 14809-46-2D, Selenium-72, conjugates  
with targeting **protein** and target cell interaction enhancer  
14809-47-3D, Bromine-75, conjugates with targeting **protein** and  
target cell interaction enhancer 14834-67-4, Iodine-133, biological  
studies 14834-68-5D, Iodine-135, conjugates with targeting  
**protein** and target cell interaction enhancer 14913-49-6D,  
Bismuth-212, conjugates with targeting **protein** and target cell  
interaction enhancer 14914-02-4D, conjugates with targeting  
**protein** and target cell interaction enhancer 14914-68-2D,  
conjugates with targeting **protein** and target cell interaction  
enhancer 14981-64-7D, Palladium-109, conjugates with targeting  
**protein** and target cell interaction enhancer 14998-63-1D,  
Rhenium-186, conjugates with targeting **protein** and target cell  
interaction enhancer 15092-94-1D, Lead-212, conjugates with targeting  
**protein** and target cell interaction enhancer 15411-62-8D,  
Ruthenium-99, conjugates with targeting **protein** and target cell  
interaction enhancer 15663-27-1D, cis-Platinum, conjugates with  
targeting **protein** and target cell interaction enhancer  
15690-69-4D, Palladium-100, conjugates with targeting **protein**  
and target cell interaction enhancer 15715-08-9D, conjugates with  
targeting **protein** and target cell interaction enhancer  
15741-25-0D, Barium-128, conjugates with targeting **protein** and  
target cell interaction enhancer 15750-15-9D, Indium-111, conjugates  
with targeting **protein** and target cell interaction enhancer  
15755-33-6D, Arsenic-72, conjugates with targeting **protein** and  
target cell interaction enhancer 15755-39-2D, Astatine-211, conjugates  
with targeting **protein** and target cell interaction enhancer  
15757-14-9D, Gallium-68, conjugates with targeting **protein** and  
target cell interaction enhancer 15757-86-5D, Copper-67, conjugates with  
targeting **protein** and target cell interaction enhancer  
15765-38-5D, Bromine-76, conjugates with targeting **protein** and  
target cell interaction enhancer 15765-39-6D, Bromine-77, conjugates  
with targeting **protein** and target cell interaction enhancer  
15839-70-0D, GDP-fucose, conjugates with cytotoxic agent and targeting  
**protein** 16468-59-0D, conjugates with targeting **protein**  
and target cell interaction enhancer 17479-04-8D, UDP-glucosamine,  
conjugates with cytotoxic agent and targeting **protein**  
20449-79-0D, Melittin, conjugates with cytotoxic agent and targeting  
**protein** 20537-88-6D, Ethiofos, conjugates with targeting  
**protein** and target cell interaction enhancer 22668-01-5D,  
conjugates with targeting **protein** and target cell interaction  
enhancer 23205-42-7D, 3-Deazauridine, conjugates with targeting  
**protein** and target cell interaction enhancer 23214-92-8D,  
Doxorubicin, conjugates with targeting **protein** and target cell  
interaction enhancer 23491-44-3D, Pibenzimol, conjugates with targeting  
**protein** and target cell interaction enhancer 24584-09-6D,  
ICRF-187, conjugates with targeting **protein** and target cell  
interaction enhancer 26833-87-4D, Homoharringtonine, conjugates with  
targeting **protein** and target cell interaction enhancer  
27061-78-5D, Alamethicin, conjugates with cytotoxic agent and targeting  
**protein** 29767-20-2D, Teniposide, conjugates with targeting  
**protein** and target cell interaction enhancer 31312-81-9D,  
Yttrium-80, conjugates with targeting **protein** and target cell  
interaction enhancer 31362-50-2D, Bombesin, conjugates with cytotoxic  
agent and targeting **protein** 31441-78-8D, Mercaptopurine,

conjugates with targeting **protein** and target cell interaction enhancer 32954-58-8D, Ipomeanol, conjugates with targeting **protein** and target cell interaction enhancer 33069-62-4D, Taxol, conjugates with targeting **protein** and target cell interaction enhancer 41575-94-4D, Carboplatin, conjugates with targeting **protein** and target cell interaction enhancer 41992-23-8D, Spirogermanium, conjugates with targeting **protein** and target cell interaction enhancer 42228-92-2D, conjugates with targeting **protein** and target cell interaction enhancer 51264-14-3D, Amsacrine, conjugates with targeting **protein** and target cell interaction enhancer 51321-79-0D, PALA, conjugates with targeting **protein** and target cell interaction enhancer 51348-50-6D, .alpha.-L-Fucose, conjugates with cytotoxic agent and targeting **protein** 51724-48-2D, Trichothec-9-ene, conjugates with targeting **protein** and target cell interaction enhancer 52128-35-5D, Trimetrexate, conjugates with targeting **protein** and target cell interaction enhancer 53910-25-1D, Pentostatin, conjugates with targeting **protein** and target cell interaction enhancer 54749-90-5D, Chlorozotocin, conjugates with targeting **protein** and target cell interaction enhancer 56605-16-4D, conjugates with targeting **protein** and target cell interaction enhancer 57576-44-0D, Aclarubicin, conjugates with targeting **protein** and target cell interaction enhancer 57998-68-2D, AziridinyI benzoquinone, conjugates with targeting **protein** and target cell interaction enhancer 59587-18-7D, conjugates with cytotoxic agent and targeting **protein** 59587-24-5D, conjugates with cytotoxic agent and targeting **protein** 59653-73-5D, Teroxirone, conjugates with targeting **protein** and target cell interaction enhancer 59763-91-6D, Pancreatic **polypeptide**, conjugates with cytotoxic agent and targeting **protein** 60084-10-8D, Tiazofurin, conjugates with targeting **protein** and target cell interaction enhancer 60617-12-1D, .beta.-Endorphin, conjugates with cytotoxic agent and targeting **protein** 61966-08-3D, Triciribine phosphate, conjugates with targeting **protein** and target cell interaction enhancer 62488-57-7D, conjugates with targeting **protein** and target cell interaction enhancer 62928-11-4D, Iproplatin, conjugates with targeting **protein** and target cell interaction enhancer 63521-85-7D, 4'-Deoxydoxorubicin, conjugates with targeting **protein** and target cell interaction enhancer 65271-80-9D, Mitoxantrone, conjugates with targeting **protein** and target cell interaction enhancer 65886-71-7D, Fazarabine, conjugates with targeting **protein** and target cell interaction enhancer 69111-41-7D, conjugates with cytotoxic agent and targeting **protein** 69408-81-7D, conjugates with targeting **protein** and target cell interaction enhancer 70699-67-1D, Paradoxin, derivs., conjugates with cytotoxic agent and targeting **protein** 71628-96-1D, Menogaril, conjugates with targeting **protein** and target cell interaction enhancer 73027-21-1D, derivs., conjugates with cytotoxic agent and targeting **protein** 75607-67-9D, Fludarabine phosphate, conjugates with targeting **protein** and target cell interaction enhancer 77327-05-0D, Didemnin B, conjugates with targeting **protein** and target cell interaction enhancer 79152-85-5D, conjugates with targeting **protein** and target cell interaction enhancer 81424-67-1D, Caracemide, conjugates with targeting **protein** and target cell interaction enhancer 87626-55-9D, Flavone-8-acetic acid, conjugates with targeting **protein** and target cell interaction enhancer 89149-10-0D, Deoxyspergualin, conjugates with targeting **protein** and target cell interaction enhancer 91441-23-5D, conjugates with targeting **protein** and target cell interaction enhancer 96249-43-3D, conjugates with cytotoxic agent and targeting **protein** 97534-21-9D, Merbarone, conjugates with targeting **protein** and target cell interaction enhancer 99278-10-1D, conjugates with cytotoxic agent and targeting **protein** 103233-04-1D, conjugates with

- cytotoxic agent and targeting **protein** 108026-95-5D, conjugates with cytotoxic agent and targeting **protein** 110064-88-5D, conjugates with cytotoxic agent and targeting **protein** 131256-61-6D, conjugates with cytotoxic agent and targeting **protein** 131256-82-1D, conjugates with cytotoxic agent and targeting **protein** 131256-85-4D, conjugates with cytotoxic agent and targeting **protein** 131257-09-5D, Bombolittin, conjugates with cytotoxic agent and targeting **protein** 131399-93-4D, derivs., conjugates with cytotoxic agent and targeting **protein** 131399-94-5D, conjugates with cytotoxic agent and targeting **protein** 131399-95-6D, conjugates with cytotoxic agent and targeting **protein** 131399-96-7D, conjugates with cytotoxic agent and targeting **protein** 131399-97-8D, conjugates with cytotoxic agent and targeting **protein** 131399-98-9D, conjugates with cytotoxic agent and targeting **protein** 131399-99-0D, conjugates with cytotoxic agent and targeting **protein** 131400-00-5D, conjugates with cytotoxic agent and targeting **protein** 131400-01-6D, conjugates with cytotoxic agent and targeting **protein** 131400-02-7D, conjugates with cytotoxic agent and targeting **protein** 131400-03-8D, conjugates with cytotoxic agent and targeting **protein** 131400-04-9D, conjugates with cytotoxic agent and targeting **protein** 131400-05-0D, conjugates with cytotoxic agent and targeting **protein** 131400-06-1D
- , conjugates with cytotoxic agent and targeting **protein** 131400-07-2D, conjugates with cytotoxic agent and targeting **protein** 131400-08-3D, conjugates with cytotoxic agent and targeting **protein**
- RL: BIOL (Biological study)  
(cell targeting with, for enhanced cytotoxicity and imaging)
- IT 58-85-5D, Biotin, conjugates with cytotoxic agent and target cell interaction enhancers
- RL: BIOL (Biological study)  
(for cell targeting for enhanced cytotoxicity and imaging)
- IT 14133-76-7D, Technetium-99, conjugates with targeting **protein** and target cell interaction enhancer
- RL: BIOL (Biological study)  
(metastable, cell targeting with, for enhanced cytotoxicity and imaging)
- IT 96573-46-5 99616-33-8 99896-85-2 110590-64-2
- RL: BIOL (Biological study)  
(**peptides** contg., conjugates with cytotoxic agent and targeting **protein**)
- IT 14378-26-8DP, complexes with GABA deriv., conjugates with monoclonal **antibody** and anchoring **peptide** 131418-21-8DP, rhenium-188 complexes, conjugates with monoclonal **antibody** and anchoring **peptide**
- RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** of, as **radionuclide**-targeting **protein**-anchoring **peptide** covalently-linked complex for cell targeting)
- IT 131400-09-4DP, conjugates with ricin A chain and **antibody**
- RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** of, as translocating **peptide**-targeting **protein**-cytotoxic agent covalently-linked complex for cell targeting)
- IT 544-63-8DP, Tetradecanoic acid, esters
- RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** of, for conjugation with **antibody** fragment and cytotoxic agent)
- IT 41191-04-2
- RL: BIOL (Biological study)  
(sol., cell targeting with, for enhanced cytotoxicity and imaging)

IT 65988-88-7D, Modeccin, conjugates 75037-46-6D, Gelonin, conjugates  
 RL: BIOL (Biological study)  
 (with targeting **protein** and target cell interaction enhancer)  
 IT 13981-56-1D, Fluorine-18, conjugates with targeting  
**protein** and target cell interaction enhancer  
 RL: BIOL (Biological study)  
 (cell targeting with, for enhanced cytotoxicity and imaging)  
 RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1990:587359 HCAPLUS

DN 113:187359

TI **Radiohalogenated** compounds, their conjugation to  
**antibodies**, and their use in therapy and imaging

IN Coughlin, Daniel J.; Belinka, Benjamin A.; Alvarez, Vernon L.

PA Cytogen Corp., USA

SO PCT Int. Appl., 49 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K049-02

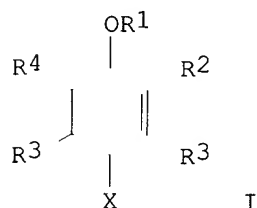
ICS A61K039-395; C07C109-10

CC 8-9 (**Radiation** Biochemistry)

Section cross-reference(s): 25, 63

FAN.CNT 1.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8911876	A1	19891214	WO 1989-US2467	19890606 <--
	W: AU, JP				
	US 4966999	A	19901030	US 1988-203793	19880607 <--
	CA 1318615	A1	19930601	CA 1989-601795	19890605 <--
	EP 348261	A1	19891227	EP 1989-401557	19890606 <--
	EP 348261	B1	19931215		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AU 8937728	A1	19900105	AU 1989-37728	19890606 <--
	JP 02504643	T2	19901227	JP 1989-506891	19890606 <--
	AT 98630	E	19940115	AT 1989-401557	19890606 <--
	ES 2062061	T3	19941216	ES 1989-401557	19890606 <--
PRAI	US 1988-203793		19880607	<--	
	EP 1989-401557		19890606	<--	
	WO 1989-US2467		19890606	<--	
OS	MARPAT 113:187359				
GI					



AB **Radiohalogenated** compds. I (R1 = H, alkyl, hydroxylalkyl; R2 =

acid hydrazide, alkyl acid hydrazide, hydrazino, alkylhydrazine, alkylphenylhydrazine, alkylamine, alkoxyamine; R3 = H, alkyl, R2; R4 = alkyl, hydroxyalkyl, R2; X = **radioactive** I, Br, F, or At) are attached via a covalent bond between an amine of I and an oxidized carbohydrate of an **antibody** or **antibody** fragment for treatment of a cellular disorder or for in vivo imaging. CYT-0303 [I; R1, R3 = H, R2 = C(O)NHNH2, X = 125I, R4 = Me], **prepd.** by **radioiodinating** the active arom. ester Me 2-hydroxy-3-methylbenzoate and hydrazinolyzing the intermediate, was site-specifically attached to NaIO4-oxidized monoclonal **antibody** B72.3 (to human breast and colon cancer). Control of the extent of redn. of the covalent bond formed between the amine group of the CYT-0303 and the oxidized carbohydrate moiety permitted control of the biol. half-life of the conjugate when administered in vivo. The conjugate was delivered to target tumor tissue as well as or better than conventionally **radioiodinated** conjugates and was not delivered to nontarget sites such as spleen and liver. Moreover, in contrast to directly **radioiodinated antibody** which is significantly dehalogenated, the conjugate with CYT-0303 was not significantly dehalogenated when administered in vivo.

- ST **radiohalogenated** benzene deriv **antibody** conjugate;  
cell disorder **radiohalogenated** compd **antibody**  
conjugate; imaging **radiohalogenated** compd **antibody**  
conjugate; tumor targeting **radiohalogenated** compd  
**antibody** conjugate
- IT Scintigraphy  
(**antibody-radiohalogenated** compd. conjugates for)
- IT **Antibodies**  
RL: BIOL (Biological study)  
(conjugates with **radiohalogenated** compds., for imaging and  
therapy)
- IT Animal tissue  
(imaging of, **antibody-radiohalogenated** compd.  
conjugates for)
- IT Intestine, neoplasm  
(colon, monoclonal **antibody** B72.3 to, conjugates with  
**radiohalogenated** compds., biodistribution of)
- IT Intestine, neoplasm  
(colon, adenocarcinoma, **radiohalogenated** compd.-monoclonal  
**antibody** B72.3 conjugates targeting of)
- IT Animal cell  
(disease, treatment of, with **antibody-**  
**radiohalogenated** compd. conjugates)
- IT **Antibodies**  
RL: BIOL (Biological study)  
(monoclonal, conjugates with **radiohalogenated** compds., for  
imaging and therapy)
- IT Mammary gland  
(neoplasm, monoclonal **antibody** B72.3 to, conjugates with  
**radiohalogenated** compds., biodistribution of)
- IT 7440-68-8D, Astatine, isotopes, benzene deriv. reaction products  
7553-56-2D, Iodine, isotopes, benzene deriv. reaction products  
7726-95-6D, Bromine, isotopes, benzene deriv. reaction products  
7782-41-4D, Fluorine, isotopes, benzene deriv. reaction products  
10043-66-0D, Iodine-131, benzene deriv. reaction products  
13981-56-1D, Fluorine-18, benzene deriv. reaction products  
14158-31-7D, Iodine-125, benzene deriv. reaction products 14809-47-3D,  
Bromine-75, benzene deriv. reaction products 15715-08-9D, Iodine-123,  
benzene deriv. reaction products 15755-39-2D, Astatine-211, benzene  
deriv. reaction products 15765-38-5D, Bromine-76, benzene deriv.  
reaction products 15765-39-6D, Bromine-77, benzene deriv. reaction  
products  
RL: BIOL (Biological study)

(antibodies radiohalogenation with, for imaging and therapy)  
 IT 83-40-9  
 RL: BIOL (Biological study)  
 (hydroxysuccinimidation of, in antibody conjugate prepn.)  
 IT 126513-96-ODP, antibody conjugates 130226-53-8DP, antibody conjugates 130226-55-ODP, antibody conjugates  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)  
 (prepn. and biodistribution of)  
 IT 130226-54-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and radioiodination of, in antibody conjugate prepn.)  
 IT 658-79-7 23287-26-5, Methyl 2-hydroxy-3-methylbenzoate  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (radioiodination of, in antibody conjugate prepn.)  
 IT 130226-48-1 130226-49-2 130226-50-5 130226-51-6 130226-52-7  
 RL: BIOL (Biological study)  
 (radioiodine-contg., antibodies radiohalogenation with, for imaging and treatment)  
 IT 13981-56-1D, Fluorine-18, benzene deriv. reaction products  
 RL: BIOL (Biological study)  
 (antibodies radiohalogenation with, for imaging and therapy)  
 RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1990:56691 HCAPLUS

DN 112:56691

TI Preparation of radiohalotyrosines for use as tracers in tomography

IN Coenen, Heinz Hubert; Kling, Peer; Stoecklin, Gerhard

PA Kernforschungsanlage Juelich G.m.b.H., Fed. Rep. Ger.

SO Ger. Offen., 4 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM A61K049-02

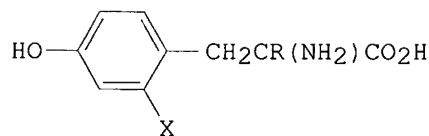
ICS C07C101-72; G01N023-00

CC 34-2 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 8, 13, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3800302	A1	19890727	DE 1988-3800302	19880108 <--
	DE 3800302	C2	19910110		
	US 4925651	A	19900515	US 1988-280804	19881207 <--
PRAI	DE 1988-3800302		19880108		<--
OS	CASREACT 112:56691; MARPAT 112:56691				
GI					



I

- AB The title compds. (I; X = 18F, 75Br, 125iodine; R = H, Me), useful as tracers for study of **protein** synthesis via positron emission **tomog.** or single photon emission **tomog.**, were **prepd.** Thus, L-O-acetyltyrosine in CF<sub>3</sub>CO<sub>2</sub>H at 0.degree. was treated with 18F (0.2% in Ne). The product was deacetylated with NaOH/H<sub>2</sub>O to give L-2-18F-tyrosine (II) with specific activity of .apprx.50 C-B q/mmol in 17% **radiochem.** yield. At 0.75-1.5 MBq i.v. in mice, II was .apprx.84% incorporated in cerebral tissue after 1 h.
- ST **radiofluorotyrosine prepn tomog** tracer;  
positron emission **tomog** tracer **radiohalotyrosine**;  
PET tracer **radiohalotyrosine**; SPECT tracer  
**radiohalotyrosine**; single photon emission **tomog**  
**radiohalotyrosine**; tyrosine **radiohalo prepn**  
**tomog** tracer
- IT **Proteins**, biological studies  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(biosynthesis, **prepn.** of **radiohalotyrosines** for use  
in emission **tomog.** study of)
- IT **Tomography**  
(**positron-emission**, tracers for, bromine-75- and  
fluorine-18-labeled tyrosine as)
- IT **Tomography**  
(single-photon-emission, tracer for, iodine-123-labeled tyrosine as)
- IT **13981-56-1**, Fluorine-18, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(fluorination by, of acetyltyrosine)
- IT 6636-22-2, L-O-Acetyltyrosine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(fluorination of)
- IT 124705-12-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(**prepn.** and deacetylation of)
- IT 119401-75-1P 124705-13-1P 124705-15-3P 124705-16-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** of, as tracer for positron-emission **tomog.**)
- IT 124705-14-2P 124705-17-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** of, as tracer for single-photon-emission  
**tomog.**)
- IT **13981-56-1**, Fluorine-18, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(fluorination by, of acetyltyrosine)
- RN 13981-56-1 HCAPLUS
- CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

TI **Radioactivity** aspects of fusion reactors  
 AU Cheng, E. T.  
 CS Gen. At., San Diego, CA, 92138-5608, USA  
 SO Fusion Engineering and Design (1989), Volume Date 1988, 10,  
 231-42  
 CODEN: FEDEEE; ISSN: 0920-3796  
 DT Journal  
 LA English  
 CC 71-2 (Nuclear Technology)  
 AB Activation characteristics, including **radioactivity**, decay  
 heating rate, and integrated decay energy at times after shutdown of a D-T  
 fusion power reactor were investigated for all potential reactor materials  
 using a recently published comprehensive activation cross-section library  
 and decay data handbook. Among the potential structural elements, the  
 shutdown activity could vary by orders of magnitude, with C, O, and Si  
 producing the least **radioactivity** and Mo giving the highest  
 activity within a few days after shutdown, a period of importance to the  
 reactor operator. V, Ti, and Fe are among the lower activation elements  
 with the activity levels higher than Si by about 1 (for V) to 2 (for Ti  
 and Fe) orders of magnitude. As far as alloying elements are concerned,  
 Cr and Si are best for minimizing the activity level; Mn, Ni, Ta and W are  
 among the elements giving higher **radioactivity** and decay heat  
 values. These higher activity elements are furthermore subject to the n  
 spectral effect resulting in an increase of activation levels in a soft  
 spectrum with higher neutron population at lower energies. The important  
 elements, that need to be limited in fusion reactor materials in order to  
 meet the 10CFR61 Class C shallow-land burial disposal goal, are Al, Si,  
 Ni, Zr and Ta as alloying elements, and Nb, Mo, Ag, Gd, Tb, and Ho as  
 impurities. The concn. limits of some of these elements such as Nb will  
 also become more restrictive in a soft n spectrum, which is typical for  
 the present fusion expt. facilities under investigation.  
 ST fusion reactor shutdown **radioactivity**; activation fusion reactor  
 material; neutron activation fusion reactor material; **radioactive**  
 waste activation fusion reactor  
 IT Nuclear fusion reactors  
 (activation of materials in, waste disposal in relation to)  
 IT **Radioactive** wastes  
 (disposal of, **radioactivity** aspects of fusion reactors in  
 relation to)  
 IT 7440-03-1P, Niobium-93, **preparation** 13966-26-2P, Lead-204,  
**preparation** 13982-37-1P, Niobium-92, **preparation**  
 14093-09-5P, Hafnium-177, **preparation** 14133-76-7P,  
 Technetium-99, **preparation** 14265-76-0P, Hafnium-179,  
**preparation** 14265-77-1P, Hafnium-178, **preparation**  
 14265-78-2P, Hafnium-180, **preparation** 14331-79-4P,  
 Bismuth-210, **preparation** 15720-57-7P, Thallium-202,  
**preparation**  
 RL: PREP (Preparation)  
 (formation of metastable, as activation product in deuterium-tritium  
 fusion reactor)  
 IT 15750-13-7P, Hafnium-175, **preparation**  
 RL: PREP (Preparation)  
 (formation of stable and metastable, as activation product in  
 deuterium-tritium fusion reactor)  
 IT 10028-17-8P, Hydrogen-3, **preparation** 10098-91-6P,  
**preparation** 10098-97-2P, Strontium-90, **preparation**  
 10198-40-0P, Cobalt-60, **preparation** 13966-05-7P, Calcium-45,  
**preparation** 13966-31-9P, Manganese-54, **preparation**  
 13966-32-0P, Sodium-22, **preparation** 13967-63-0P, Scandium-46,  
**preparation** 13967-76-5P, Niobium-95, **preparation**  
 13968-51-9P, Thallium-204, **preparation** 13981-25-4P, Copper-64,  
**preparation** 13981-27-6P, Zirconium-89, **preparation**  
 13981-37-8P, Nickel-63, **preparation** 13981-38-9P, Cobalt-58,

**preparation** 13981-50-5P, Cobalt-57, **preparation**  
 13981-51-6P, Mercury-197, **preparation** 13981-56-1P,  
 Fluorine-18, **preparation** 13982-00-8P, Tantalum-182,  
**preparation** 13982-04-2P, Sodium-24, **preparation**  
 13982-36-0P, **preparation** 13982-39-3P, Zinc-65,  
**preparation** 13982-78-0P, Mercury-203, **preparation**  
 13994-71-3P, Argon-37, **preparation** 14092-95-6P, Calcium-41,  
**preparation** 14119-13-2P, Molybdenum-93, **preparation**  
 14119-28-9P, Lead-205, **preparation** 14145-42-7P, Bismuth-208,  
**preparation** 14191-87-8P, Mercury-199, **preparation**  
 14320-93-5P, Gold-195, **preparation** 14336-70-0P, Nickel-59,  
**preparation** 14378-26-8P, Rhenium-188, **preparation**  
 14390-89-7P, Beryllium-10, **preparation** 14391-27-6P,  
 Tantalum-179, **preparation** 14391-86-7P, Scandium-48,  
**preparation** 14391-96-9P, Scandium-47, **preparation**  
 14392-01-9P, Vanadium-49, **preparation** 14392-02-0P,  
 Chromium-51, **preparation** 14452-47-2P, Lutetium-176,  
**preparation** 14596-12-4P, Iron-59, **preparation**  
 14681-52-8P, Manganese-56, **preparation** 14681-59-5P, Iron-55,  
**preparation** 14681-63-1P, Niobium-94, **preparation**  
 14682-66-7P, Aluminum-26, **preparation** 14682-97-4P, Niobium-91,  
**preparation** 14687-25-3P, Lead-203, **preparation**  
 14762-75-5P, Carbon-14, **preparation** 14833-26-2P, Zinc-63,  
**preparation** 14914-16-0P, Gold-196, **preparation**  
 14932-41-3P, Tungsten-185, **preparation** 14983-46-1P,  
 Rhenium-184, **preparation** 14998-63-1P, Rhenium-186,  
**preparation** 14999-33-8P, Manganese-53, **preparation**  
 15749-46-9P, Tungsten-181, **preparation** 15751-77-6P,  
 Zirconium-93, **preparation** 15758-35-7P, Ruthenium-97,  
**preparation** 15759-35-0P, Technetium-97, **preparation**  
 25729-41-3P, Argon-39, **preparation** 32025-58-4P, Technetium-98,  
**preparation**

RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, as activation product in deuterium-tritium fusion  
 reactor)

IT 7429-90-5, Aluminum, reactions 7439-89-6, Iron, reactions  
 7439-95-4, Magnesium, reactions 7439-96-5, Manganese, reactions  
 7440-02-0, Nickel, reactions 7440-21-3, Silicon, reactions 7440-23-5,  
 Sodium, reactions 7440-32-6, Titanium, reactions 7440-41-7, Beryllium,  
 reactions 7440-42-8, Boron, reactions 7440-44-0, Carbon, reactions  
 7440-47-3, Chromium, reactions 7440-48-4, Cobalt, reactions 7440-50-8,  
 Copper, reactions 7440-62-2, Vanadium, reactions 7440-66-6, Zinc,  
 reactions 7440-67-7, Zirconium, reactions 7440-70-2, Calcium,  
 reactions 7727-37-9, Nitrogen, reactions 7782-41-4, Fluorine,  
 reactions 7782-44-7, Oxygen, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (neutron activation of, in deuterium-tritium fusion reactor)

IT 7439-92-1, Lead, reactions 7439-97-6, Mercury, reactions 7439-98-7,  
 Molybdenum, reactions 7440-03-1, Niobium, reactions 7440-15-5,  
 Rhenium, reactions 7440-25-7, Tantalum, reactions 7440-33-7, Tungsten,  
 reactions 7440-58-6, Hafnium, reactions 7440-69-9, Bismuth, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)

(neutron activation reaction of, in deuterium-tritium fusion reactor)

IT 12586-31-1, Neutron, chemical and physical effects

RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (reactivity aspects of fusion reactor materials in relation to)

IT 7782-39-0, Deuterium, uses and miscellaneous 10028-17-8, Tritium, uses  
 and miscellaneous

RL: USES (Uses)

(reactivity aspects of fusion reactors in relation to)

IT 13981-56-1P, Fluorine-18, **preparation**

RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, as activation product in deuterium-tritium fusion

reactor)  
 RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

IT 7439-89-6, Iron, reactions 7439-96-5, Manganese,  
 reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (neutron activation of, in deuterium-tritium fusion reactor)  
 RN 7439-89-6 HCAPLUS  
 CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

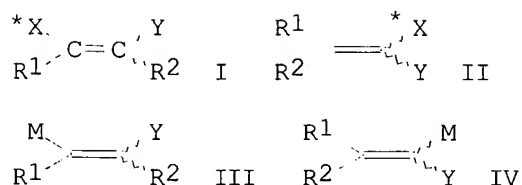
Fe

RN 7439-96-5 HCAPLUS  
 CN Manganese (8CI, 9CI) (CA INDEX NAME)

Mn

L159 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1989:550041 HCAPLUS  
 DN 111:150041  
 TI Vinyl substituted **radiohalogen** conjugates for **protein**  
 labeling  
 IN Wilbur, Daniel Scott; Hadley, Stephen W.  
 PA NeoRx Corp., USA  
 SO Eur. Pat. Appl., 21 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM C07B059-00  
 ICS C07F007-22; A61K043-00; A61K049-02  
 CC 9-1 (Biochemical Methods)  
 Section cross-reference(s): 25, 29  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 289187	A2	19881102	EP 1988-303474	19880418 <--
	EP 289187	A3	19900328		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	US 4870188	A	19890926	US 1987-39155	19870416 <--
	US 4876081	A	19891024	US 1988-171731	19880405 <--
	DK 8802088	A	19881017	DK 1988-2088	19880415 <--
	NO 8801635	A	19881017	NO 1988-1635	19880415 <--
	AU 8814658	A1	19881020	AU 1988-14658	19880415 <--
	AU 606936	B2	19910221		
	CA 1338770	A1	19961203	CA 1988-564230	19880415 <--
	CN 1030748	A	19890201	CN 1988-102358	19880416 <--
	JP 01034930	A2	19890206	JP 1988-94405	19880416 <--
	US 5200169	A	19930406	US 1989-350104	19890705 <--
PRAI	US 1987-39155		19870416	<--	
	US 1988-171731		19880405	<--	
OS	MARPAT 111:150041				
GI					



- AB Vinyl **radiohalogenated** small mols. I and II [\*X = **radiohalogen**; R1,R2 = H, (substituted)alkyl, (substituted)aryl, heteroalkyl, heteroaryl, mixed alkyl aryl; Y = R1,R2, except not H, and bears a functionalgroup suitable for binding to **proteins** under conditions preserving biol. activity] and organometallic intermediates III and IV [M = trialkylstannane, Sn(n-Bu)<sub>3</sub>, SnMe<sub>3</sub>, SiX<sub>4</sub>, X<sub>2</sub>, HgX (X = Cl, Br, I), Hg acetate, B(OH)<sub>2</sub>, BQ<sub>2</sub> (Q = hydride, alkyl, alkoxy, with .ltoreq.5 C), Zr(Cp)<sub>2</sub>Cl (Cp = cyclopentadienyl), SiF<sub>5</sub>K<sub>2</sub>; R1,R2, Y same as above] are described. I and II can be coupled to **proteins** such as monoclonal **antibodies** to provide reagents for diagnosis and therapy. To a soln. of tri-n-butylstannyl 5-(tri-n-butylstannyl)-4-pentenoate (1.0 equiv) (**prepn.** presented) in anhyd. THF was added dicyclohexylcarbodiimide (1.2 equiv) and 2,3,5,6-tetrafluorophenyl (1.2 equiv). This soln. was stirred overnight, filtered, the filtrate was concd. and the residue chromatographed to yield 2,3,5,6-tetrafluorophenyl 5-(tri-n-butylstannyl)-4-pentenoate (V). I (25 .mu.g) in 25 .mu.L 5% HOAc/MeOH was mixed with N-chlorosuccinimide (10 .mu.g in 10 .mu.L MeOH) and 10 .mu.L phosphate buffered saline. To this soln. was added Na <sup>125</sup>I soln. (in 0.1 N NaOH, 100 .mu.Ci-2 mCi), and after 5 min at room temp., 10 .mu.L Na<sub>2</sub>S<sub>2</sub>O<sub>5</sub> (0.72 mg/mL) was added, yielding 2,3,5,6-tetrafluorophenyl 5-[<sup>125</sup>I]-iodo-4-pentenoate (VI) at >80%. VI was mixed with buffered **protein** soln. (pH 8.5-9.5) for 30-60 min at 37.degree.; and then **protein** conjugates were sepd. by gel permeation chromatog. Yield of conjugated product was .apprx.35%.
- ST **radiohalogen protein** conjugation biol activity;  
ethylene deriv **radiohalogenation protein**
- IT Neoplasm  
(cells of, monoclonal **antibodies** to,  
**radiohalogenation** of, ethylene derivs. in, biol. activity in relation to)
- IT Melanoma  
(monoclonal **antibody** to, Fab fragment of,  
conjugates with **radioiodinated** tetrafluorophenyl pentenoate,  
**prepn.** of, for biodistribution studies)
- IT **Proteins**, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**radiohalogenation** of, ethylene derivs. in, biol. activity in relation to)
- IT **Antibodies**  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(monoclonal, **radiohalogenation** of, ethylene derivs. in, biol. activity in relation to)
- IT 74-85-1D, Ethene, derivs. 74-85-1D, Ethene, organometallic esters  
RL: ANST (Analytical study)  
(in **protein radiohalogenation**, biol. activity in relation to)
- IT 10043-66-0, Iodine-131, reactions **13981-56-1**, Fluorine-18, reactions 14158-31-7, Iodine-125, reactions 14809-47-3, Bromine-75, reactions 15715-08-9, Iodine-123, reactions 15755-39-2, Astatine-211, reactions 15765-38-5, Bromine-76, reactions 15765-39-6, Bromine-77, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)

(monoclonal **antibody** and other **protein** labeling  
with, ethylene derivs. in, biol. activity in relation to)

IT 123018-16-6DP, **protein** conjugates 123018-18-8DP,  
**protein** conjugates  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** of)

IT 123018-16-6DP, conjugates with antimelanoma monoclonal **antibody**  
**Fab** fragment 123018-18-8DP, conjugates with antimelanoma  
monoclonal **antibody Fab** fragment  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** of, for biodistribution studies)

IT 123018-11-1P 123018-12-2P 123018-13-3P 123018-14-4P 123018-15-5P  
123018-16-6P 123018-17-7P 123018-18-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** of, in **protein radioiodination**)

IT 74-85-1D, Ethene, **radiohalogenated** derivs.  
RL: ANST (Analytical study)  
(**protein** labeling with, biol. activity in relation to)

IT 128-09-6, N-Chlorosuccinimide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with butylstannylbenzoate deriv.)

IT 6066-82-6, N-Hydroxysuccinimide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with butylstannylbenzoate deriv. and  
dicyclohexylcarbodiimide)

IT 769-39-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with butylstannylpentenoate deriv. and  
dicyclohexylcarbodiimide)

IT 538-75-0, Dicyclohexylcarbodiimide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with butylstannylpentenoate deriv. and tetrafluorophenyl)

IT 1075-49-6, 4-Ethenylbenzoic acid 6089-09-4, 4-Pentynoic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with butyltinhydride)

IT 97-94-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with butyltinhydride and pentynoic acid)

IT 67099-40-5, 3,3-Dimethyl-4-pentynoic acid  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with butyltinhydride and tri-Et boride)

IT 688-73-3, Tri-n-butyltinhydride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with pentynoic acid)

IT 13981-56-1, Fluorine-18, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(monoclonal **antibody** and other **protein** labeling  
with, ethylene derivs. in, biol. activity in relation to)

RN 13981-56-1 HCAPLUS  
CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1989:420216 HCAPLUS

DN 111:20216

TI Affinity enhancement immunological reagents for detection and killing of  
specific target cells

IN Barbet, Jacques; Delaage, Michel; Le Doussal, Jean Marc

PA Immunotech S. A., Fr.

SO Eur. Pat. Appl., 13 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM A61K049-00  
 ICS A61K043-00; A61K047-00  
 CC 8-9 (**Radiation** Biochemistry)  
 Section cross-reference(s): **34**  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 263046	A1	19880406	EP 1987-430031	19870916 <--
	EP 263046	B1	19920415		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	FR 2604092	A1	19880325	FR 1986-13146	19860919 <--
	FR 2604092	B1	19900413		
	US 5256395	A	19931026	US 1987-96829	19870910 <--
	AT 74769	E	19920515	AT 1987-430031	19870916 <--
	ES 2032468	T3	19930216	ES 1987-430031	19870916 <--
	CA 1306414	A1	19920818	CA 1987-547184	19870917 <--
	AU 8778656	A1	19880421	AU 1987-78656	19870918 <--
	AU 613318	B2	19910801		
	JP 63159327	A2	19880702	JP 1987-234680	19870918 <--
	JP 2612454	B2	19970521		
PRAI	FR 1986-13146		19860919	<--	
	EP 1987-430031		19870916	<--	

AB Immunol. reagents comprise (a) a monoclonal **antibody** or fragment, with binding affinity for a desired antigen (e.g. cell-, tumor-, or tissue-assocd.), conjugated to a monoclonal **antibody** or fragment with binding affinity for a desired **hapten**; and (b) a synthetic mol. comprising .gtoreq.2 **haptens** (which bind the conjugate), .gtoreq.1 site suitable for **radiolabeling**, labeling with a stable paramagnetic metal, or coupling to a drug or toxin, and a chem. structure to link these functions. These reagents can bind to target cells in a specific way; the **hapten** localizes preferentially on the antigen-bearing cells even in the presence of excess **antibody** conjugates (affinity enhancement). The reagents are used in vitro or in vivo to detect tumors, metastases, or other tissue injuries when the synthetic mol. carries **radioactive** or paramagnetic compds., and to kill target cells when carrying **radioactive** compds., drugs, or toxins. The F(ab')<sub>2</sub> fragment of anti-Lyb8.2 **antibody** (clone CY34) was treated with succinimidyl 4-(N-maleimidomethyl)cyclohexane-1-carboxylate and conjugated to the Fab' fragment of anti-2,4-DNP **antibody**. BALB/c mouse spleen cells (107 cells/mL), contg. Lyb8.2 antigens, were incubated with the conjugate (3.10 .times. 10<sup>-9</sup>M) for 2 h at 37.degree. before binding 111In-labeled bis[N.epsilon.-(2,4-dinitrophenyl)-L-lysyl]diethylenetriaminepentaacetic acid (I) or [N.epsilon.-(2,4-dinitrophenyl)-L-lysyl]diethylenetriaminepentaacetic acid (II) (both **prepd.** from 2,4-dinitrophenylllysine and DTPA cyclic anhydride). Under these conditions, 26% (bound/free) of labeled I became bound to the cells (of which .apprx.70% are Lyb8.2 pos.), as opposed to only 6% (bound/free) of the monomeric tracer II. In the absence of conjugate, the nonspecific binding of labeled tracers was .apprx.0.2%.

ST monoclonal **antibody** specificity **hapten** cell antigen;  
 immunoreagent diagnosis neoplasm inhibition

IT Pokeweed

(antiviral **proteins** of, **hapten** conjugates, target cell killing with dual-specificity monoclonal **antibodies** and)

IT Antigens

RL: BIOL (Biological study)

(cell- and tissue-assocd., dual-specificity monoclonal **antibodies** to **hapten** and, for detecting and killing

- target cells)
- IT Pharmaceuticals
  - Toxins
  - RL: BIOL (Biological study)
    - (conjugates with **haptens**, target cell killing with dual-specificity monoclonal **antibodies** and)
- IT Imaging
  - (dual-specificity monoclonal **antibodies** and **haptens** -metal conjugates for)
- IT Cytotoxic agents
  - Neoplasm inhibitors
    - (dual-specificity monoclonal **antibodies** and **haptens** -toxin conjugates as)
- IT Antigens
  - Fibrins
  - Myosins
  - RL: BIOL (Biological study)
    - (dual-specificity monoclonal **antibodies** to **haptens** and, for detecting and killing target cells)
- IT **Radioelements**, biological studies
  - RL: BIOL (Biological study)
    - (**haptens** labeled with, target cell killing with dual-specificity monoclonal **antibodies** and)
- IT Chelating agents
  - Phenols, uses and miscellaneous
  - RL: USES (Uses)
    - (in immunochem. reagent for detecting and killing target cells)
- IT Halogenation
  - (of phenolic **haptens**, target cell killing with dual-specificity monoclonal **antibodies** in relation to)
- IT **Haptens**
  - RL: BIOL (Biological study)
    - (**radioisotope** or toxin conjugates, monoclonal **antibodies** to cell antigens and, for detecting and killing target cells)
- IT Spleen
  - (targeting of cell antigens of, with dual-specificity monoclonal **antibodies** and **haptens-radioisotope** conjugates)
- IT Lung, neoplasm
  - Lymphoma
  - Melanoma
    - (targeting of, by dual-specificity monoclonal **antibodies** and **haptens-radioisotope** or -toxin conjugates)
- IT Plant
  - (toxins of, **haptens** conjugates, target cell killing with dual-specificity monoclonal **antibodies** and)
- IT Antigens
  - RL: BIOL (Biological study)
    - (CD5, dual-specificity monoclonal **antibodies** to DNP and, cell targeting by)
- IT Animal cell line
  - (HPB-ALL, targeting of antigens of, with dual-specificity monoclonal **antibodies** and **haptens-radioisotope** conjugates)
- IT Antigens
  - RL: BIOL (Biological study)
    - (Lyb-8.2, dual-specificity monoclonal **antibodies** to DNP and, cell targeting by)
- IT **Tomography**
  - (NMR, dual-specificity monoclonal **antibodies** and **haptens-metal** conjugates for)
- IT Animal cell line

- (Namalwa, targeting of antigens of, with dual-specificity monoclonal **antibodies** and **haptens-radioisotope** conjugates)
- IT **Proteins**, specific or class  
RL: BIOL (Biological study)  
(conjugates, antiviral, of pokeweed, with **haptens**, target cell killing with dual-specificity monoclonal **antibodies** and)
- IT Alkaloids, compounds  
RL: BIOL (Biological study)  
(conjugates, of Vinca, with **haptens**, target cell killing with dual-specificity monoclonal **antibodies** and)
- IT **Peptides**, compounds  
RL: BIOL (Biological study)  
(conjugates, with **haptens** and metals or toxins, target cell killing with dual-specificity monoclonal **antibodies** and)
- IT Abrins  
Anthracyclines  
Ricins  
RL: BIOL (Biological study)  
(conjugates, with **haptens**, target cell killing with dual-specificity monoclonal **antibodies** and)
- IT Toxins  
RL: BIOL (Biological study)  
(diphtheria, conjugates with **haptens**, target cell killing with dual-specificity monoclonal **antibodies** and)
- IT Intestine, neoplasm  
(large, targeting of, by dual-specificity monoclonal **antibodies** and **haptens-radioisotope** or -toxin conjugates)
- IT **Antibodies**  
RL: BIOL (Biological study)  
(monoclonal, dual-specificity, to **haptens** and to cell antigen, for detecting and killing target cells)
- IT Mammary gland  
(neoplasm, targeting of, by dual-specificity monoclonal **antibodies** and **haptens-radioisotope** or -toxin conjugates)
- IT Magnetic substances  
(para-, conjugates with **haptens**, target cell killing with dual-specificity monoclonal **antibodies** and)
- IT Antigens  
RL: BIOL (Biological study)  
(tumor-assocd., dual-specificity monoclonal **antibodies** to **haptens** and, for detecting and killing target cells)
- IT **Proteins**, specific or class  
RL: BIOL (Biological study)  
(villins, dual-specificity monoclonal **antibodies** to **haptens** and, for detecting and killing target cells)
- IT 82707-54-8  
RL: BIOL (Biological study)  
(dual-specificity monoclonal **antibodies** to DNP and, cell targeting by)
- IT 14133-76-7, biological studies 14885-78-0, biological studies  
RL: BIOL (Biological study)  
(**haptens** labeled with metastable, target cell detection and killing with dual-specificity monoclonal **antibodies** and)
- IT 7439-89-6, Iron, biological studies 7439-96-5, Manganese, biological studies 7440-54-2, Gadolinium, biological studies 10043-66-0, Iodine-131, biological studies 10098-91-6, Yttrium-90, biological studies 13981-50-5, Cobalt-57, biological studies 13981-56-1, Fluorine-18, biological studies 14119-09-6, Gallium-67, biological studies 14158-31-7, Iodine-125, biological studies 14687-25-3, Lead-203, biological studies 14913-49-6, Bismuth-212, biological studies 15715-08-9, Iodine-123, biological

studies 15750-15-9, Indium-111, biological studies 15755-39-2, Astatine-211, biological studies 15757-14-9, Gallium-68, biological studies 15757-86-5, Copper-67, biological studies 15758-35-7, Ruthenium-97, biological studies 15765-38-5, Bromine-76, biological studies 15765-39-6, Bromine-77, biological studies

RL: BIOL (Biological study)  
 (hapten labeled with, target cell detection and killing with dual-specificity monoclonal **antibodies** and)

IT 10466-72-5  
 RL: BIOL (Biological study)  
 (hydroxysuccinimidation of)

IT 51-28-5D, 2,4-Dinitrophenol, derivs., **radioisotope**-labeled or toxin conjugates 121198-92-3D, **radioisotope**-labeled or toxin conjugates 121198-93-4D, **radioisotope**-labeled or toxin conjugates  
 RL: BIOL (Biological study)  
 (monoclonal **antibodies** to cell antigens and, for detecting and killing target cells)

IT 121198-95-6P 121198-96-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (**prepn.** and iodination of)

IT 82321-04-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (**prepn.** and reaction with tyrosyllysine)

IT 121198-94-5DP, indium-111 complexes 121198-97-8P 121213-41-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (**prepn.** of and cell targeting with dual-specificity monoclonal **antibodies** and)

IT 673-08-5, L-Tyrosyl-glycine 54925-88-1, L-Tyrosyl-L-lysine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with DNP deriv.)

IT 1094-76-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with DTPA cyclic anhydride)

IT 23911-26-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with dinitrophenyllysine)

IT 59-05-2D, Methotrexate, **hapten** conjugates 7440-06-4D, Platinum, complexes, **hapten** conjugates  
 RL: BIOL (Biological study)  
 (target cell detection and killing with dual-specificity monoclonal **antibodies** and)

IT 75037-46-6D, Gelonin, **hapten** conjugates  
 RL: BIOL (Biological study)  
 (target cell killing with dual-specificity monoclonal **antibodies** and)

IT 7439-89-6, Iron, biological studies 7439-96-5, Manganese, biological studies 7440-54-2, Gadolinium, biological studies 13981-56-1, Fluorine-18, biological studies  
 RL: BIOL (Biological study)  
 (hapten labeled with, target cell detection and killing with dual-specificity monoclonal **antibodies** and)

RN 7439-89-6 HCAPLUS  
 CN Iron (7CI, 8CI, 9CI) (CA INDEX NAME)

Fe

RN 7439-96-5 HCAPLUS  
 CN Manganese (8CI, 9CI) (CA INDEX NAME)

Mn

RN 7440-54-2 HCAPLUS  
 CN Gadolinium (8CI, 9CI) (CA INDEX NAME)

Gd

RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

<sup>18</sup>F

L159 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1989:169833 HCAPLUS

DN 110:169833

TI Preparation of <sup>18</sup>F-methylbenzoyl derivatives for use in positron  
 emission tomography

IN Jacobson, K. A.; Kirk, K. L.; Furlano, D. C.

PA United States Dept. of Health and Human Services, USA

SO U. S. Pat. Appl., 32 pp. Avail. NTIS Order No. PAT-APPL-7-168 494.

CODEN: XAXXAV

DT Patent

LA English

CC 9-14 (Biochemical Methods)

Section cross-reference(s): 8, 25

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	US 168494	A0	19880715	US 1988-168494	19880315 <--
	US 5098996	A	19920324		
	US 664953	A0	19850510	US 1984-664953	19841026 <--
	US 4612315	A	19860916		
	US 717624	A0	19850927	US 1985-717624	19850329 <--
PRAI	US 1984-664953		19841026	<--	
	US 1985-717624		19850329	<--	
	US 1986-833035		19860226	<--	
	US 1986-874143		19860613	<--	

OS MARPAT 110:169833

AB Methods for introducing **radioisotopic** F into biol. active mols.  
 for use in diagnostic nuclear medicine are described. A  
 p-bromomethylbenzoyl group is coupled to an amino group via its  
 N-hydroxysuccinimide ester, giving compds. BrCH<sub>2</sub>BzNR<sub>1</sub>R<sub>2</sub> (I; R<sub>1</sub>, R<sub>2</sub>  
 undefined). Br is then displaced by F to produce the p-  
 fluoromethylbenzoyl group, giving compds. FCH<sub>2</sub>BzNR<sub>1</sub>R<sub>2</sub> (II; R<sub>1</sub>, R<sub>2</sub>  
 undefined). Alternatively, a functionalized bromomethylbenzoyl group is  
 initially fluorinated, and then coupled to a functionalized drug,  
 biopolymer, or any other compd. The latter may optionally be carried out  
 by the use of prosthetic groups ZCH<sub>2</sub>BzXY [X = NH(CH<sub>2</sub>)<sub>n</sub>,  
 NH(CH<sub>2</sub>)<sub>m</sub>N(Boc)(CH<sub>2</sub>)<sub>n</sub> (Boc = tert-butoxycarbonyl), NH(CH<sub>2</sub>)<sub>m</sub>O(CH<sub>2</sub>)<sub>n</sub>, etc.; Y  
 = CO<sub>2</sub>H, NH<sub>2</sub>, Boc-amino, N-hydroxysuccinimide carboxylate, etc.; Z = Br, I,  
 mesylate, tosylate, etc.; m, n = 0-6]. N-Succinimidyl-p-  
 (bromomethyl)benzoate was combined with 2-phenylethylamine in DMF for 1 h,  
 extd. with EtOAc, washed with acid/base, and recrystd. to give I [R<sub>1</sub> =  
 (CH<sub>2</sub>)<sub>2</sub>; R<sub>2</sub> = Ph], which was dissolved in MeCN, treated with 2 equiv of  
 Bu<sub>4</sub>NF, dried, and heated at 50.degree. to yield II [R<sub>1</sub> = (CH<sub>2</sub>)<sub>2</sub>; R<sub>2</sub> = Ph].

ST fluoromethylbenzoyl **radioisotope** deriv; tomog  
fluoromethylbenzoyl **radioisotope** deriv

IT Adrenergic antagonists  
(fluoromethylbenzoyl indole derivs. as, receptor affinity of)

IT Amines, compounds  
RL: ANST (Analytical study)  
(conjugates, with fluoromethylbenzoyl derivs., for brain metab. study)

IT **Peptides**, biological studies  
RL: PRP (Properties)  
(fluoromethylbenzoyl, receptor affinity of)

IT Receptors  
RL: ANST (Analytical study)  
(purinergic, antagonists, fluoromethylbenzoyl dialkylxanthine derivs.  
as, receptor affinity of)

IT Receptors  
RL: ANST (Analytical study)  
(purinergic A1, agonists and antagonists, fluoromethylbenzoyl purine  
derivs. as, receptor affinity of)

IT Receptors  
RL: ANST (Analytical study)  
(purinergic A2, antagonists, fluoromethylbenzoyl purine derivs. as,  
receptor affinity of)

IT 120-73-0D, Purine, fluoromethylbenzoyl derivs.  
RL: ANST (Analytical study)  
(adenosine receptor agonists and antagonists)

IT 120131-78-4  
RL: ANST (Analytical study)  
(adrenergic antagonist)

IT 120147-91-3  
RL: ANST (Analytical study)  
(brain adenosine receptor agonist)

IT 104344-41-4 117723-92-9 120131-77-3 120147-92-4  
RL: ANST (Analytical study)  
(brain adenosine receptor antagonist)

IT 429-41-4, Tetrabutylammonium fluoride  
RL: ANST (Analytical study)  
(bromotoluic acid Bu ester fluorination with)

IT 120147-93-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(demethylation of)

IT 108052-76-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(fluorination of)

IT 108052-76-2  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(fluorination of, with tetrabutylammonium fluoride)

IT 65190-50-3P 118507-17-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(**prepn.** and amidation of, in fluoromethylbenzoyl derivs.  
**prepn.**)

IT 120131-79-5P 120131-80-8P 120177-52-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** and binding activity of)

IT 118507-18-9P 118507-19-0P 118507-20-3P 118507-21-4P 118507-22-5P  
118507-23-6P 118507-24-7P 118507-25-8P 118507-26-9P 118507-27-0P  
118507-28-1P 118507-30-5P 120131-67-1P 120131-68-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(**prepn.** and fluorination of, in fluoromethylbenzoyl derivs.  
**prepn.**)

IT 57260-73-8P 68076-36-8P 120059-15-6P 120059-16-7P 120131-71-7P  
120131-72-8P 120131-73-9P 120131-81-9P 120131-82-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and reaction of, in fluoromethylbenzoyl derivs.

prepn.)

IT 118507-31-6P 118507-32-7P 118507-33-8P 118507-34-9P 118507-35-0P  
 118507-36-1P 118507-37-2P 118507-38-3P 118507-39-4P 118507-40-7P  
 118507-41-8P 118507-43-0P 118507-45-2P 120131-69-3P 120131-70-6P  
 120131-74-0P 120131-83-1P 120131-85-3P 120131-89-7P 120131-90-0P  
 120131-91-1P 120131-92-2P 120131-93-3P 120131-94-4P, Succinimidyl  
 p-hydroxymethylbenzoate 120177-50-6P 120177-53-9P 120177-54-0P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

IT 120131-75-1P 120131-76-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, as brain adenosine receptor agonist)

IT 13981-56-1DP, Fluorine-18, methylbenzoyl derivs.

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, for use in brain imaging)

IT 15852-63-8P, Ethyl p-hydroxymethylbenzoate 120131-86-4P 120131-87-5P  
 120131-88-6P 120131-96-6P 120131-97-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, in fluoromethylbenzoyl derivs. prepn.)

IT 373-68-2, Tetramethylammonium fluoride

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with bromomethylbenzoylamino)

IT 6066-82-6, N-Hydroxysuccinimide

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with bromotoluic acid)

IT 124-63-0, Mesyl chloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with butoxycarbonyl hydroxymethylbenzoylaminoethylamine)

IT 100-74-3, 4-Ethylmorpholine

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with dibutoxycarbonyl-insulin and disuccinimidylsuberate)

IT 76403-92-4

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with dibutoxycarbonyl-insulin and ethylmorpholine)

IT 28920-43-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with diethylenetriamine)

IT 120177-51-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with disuccinimidylsuberate and ethylmorpholine)

IT 15852-63-8, Ethyl p-hydroxymethylbenzoate 24424-99-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with ethylenediamine)

IT 111-40-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with fluorenemethyl chloroformate)

IT 109-02-4, N-Methylmorpholine

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with fluorenemethyloxycarbonyl-diethylenetriamine and  
 butoxycarbonyldicarbonate)

IT 24424-99-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with fluorenemethyloxycarbonyl-diethylenetriamine and  
 methylmorpholine)

IT 3006-96-0, p-Hydroxymethylbenzoic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with hydrogen chloride gas)

IT 7647-01-0, Hydrogen chloride, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with hydroxymethylbenzoic acid)

IT 6232-88-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with hydroxysuccinimide)

IT 120131-84-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with hydroxysuccinimidoylsuberate and ethylmorpholine)

IT 100-74-3, N-Ethylmorpholine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with hydroxysuccinimidoylsuberate and  
 fluoromethylbenzoyl ethylenediamine)

IT 6232-88-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with monobutylethylenediamine)

IT 64-04-0D, 2-Phenylethylamine, insulin reaction products  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with succinimidylbromomethylbenzoate)

IT 51-67-2 61-54-1, 1H-Indole-3-ethanamine 64-04-0, Benzeneethanamine  
 74-89-5, Methanamine, reactions 106-49-0, reactions 109-73-9,  
 1-Butanamine, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with succinimidylbromomethylbenzoate, in  
 fluoromethylbenzoyl derivs. **prepn.**)

IT 598-41-4 687-51-4 687-69-4 2749-11-3 2799-16-8 3886-69-9  
 51165-05-0 56613-80-0  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with sulfosuccinimidylbromomethylbenzoate, in  
 fluoromethylbenzoyl derivs. **prepn.**)

IT 107-15-3, 1,2-Ethanediamine, reactions 110-60-1, 1,4-Diaminobutane  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with tert-butoxycarbonyl anhydride)

IT 120-72-9D, Indole, fluoromethylbenzoyl derivs.  
 RL: ANST (Analytical study)  
 (.beta.-adrenergic antagonists, receptor affinity of)

IT 13981-56-1DP, Fluorine-18, methylbenzoyl derivs.  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (**prepn.** of, for use in brain imaging)

RN 13981-56-1 HCAPLUS

CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1989:110849 HCAPLUS

DN 110:110849

TI Direct electrophilic **radiofluorination** of phenylalanine,  
 tyrosine and dopa

AU Coenen, H. H.; Franken, K.; Kling, P.; Stoecklin, G.

CS Inst. Chem., Kernforschungsanlage Juelich G.m.b.H., Juelich, D-5170, Fed.  
 Rep. Ger.

SO Applied Radiation and Isotopes (1988), 39(12), 1243-50  
 CODEN: ARISEF; ISSN: 0883-2889

DT Journal

LA English

CC 8-2 (Radiation Biochemistry)  
 Section cross-reference(s): 34

AB The reactivity and selectivity of 18F2 and AcO18F with arom. **amino  
 acids** in various solvents were compared. An HPLC method based on  
 ion-pair chromatog. was developed allowing the isocratic sepn. of all  
 fluoroisomers of phenylalanine, tyrosine, and dopa with a single column.  
 While AcO18F exhibited a higher regioselectivity and less side product

formation, practical labeling yields were higher with  $^{18}\text{F}$ . In  $\text{CF}_3\text{CO}_2\text{H}$  as solvent, the preferentially formed isomers 2- $^{18}\text{F}$ fluorophenylalanine, 3- $^{18}\text{F}$ fluorotyrosine, and 2- $^{18}\text{F}$ fluorodopa were obtained in good yields of 20, 28, and 7.5%, resp. After O-acetylation of tyrosine, 2- $^{18}\text{F}$ fluorotyrosine was obtained with a **radiochem.** yield of 16% by direct fluorination with  $^{18}\text{F}$ AcOF followed by hydrolysis. In all cases, the pure L-isomer was obtained.

ST electrophile **radiofluorinated** phenylalanine dopa tyrosine  
 IT Solvent effect  
     (in electrophilic **radiofluorination** of dopa and phenylalanine and tyrosine)  
 IT 13981-56-1, Fluorine-18, biological studies  
     RL: BIOL (Biological study)  
         (electrophilic fluorination by, of dopa, phenylalanine and tyrosine, positron emission **tomog.** in relation to)  
 IT 59-92-7, Dopa, biological studies 60-18-4, Tyrosine, biological studies 63-91-2, Phenylalanine, biological studies  
     RL: RCT (Reactant); RACT (Reactant or reagent)  
         (electrophilic **radiofluorination** of, positron emission **tomog.** in relation to)  
 IT 33285-27-7P 33285-28-8P 66414-39-9P 92812-81-2P 92812-82-3P 105801-81-8P 118584-60-4P 119401-75-1P  
     RL: SPN (Synthetic preparation); PREP (Preparation)  
         (**prepn.** of, positron emission **tomog.** in relation to)  
 IT 13981-56-1, Fluorine-18, biological studies  
     RL: BIOL (Biological study)  
         (electrophilic fluorination by, of dopa, phenylalanine and tyrosine, positron emission **tomog.** in relation to)  
 RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

$^{18}\text{F}$

L159 ANSWER 22 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1986:560447 HCAPLUS

DN 105:160447

TI Synthesis and biodistribution of fluorine-18-labeled

fluoronitroimidazoles: potential in vivo markers of hypoxic tissue

AU Jerabek, Paul A.; Patrick, Timothy B.; Kilbourn, Michael R.; Dischino, Douglas D.; Welch, Michael J.

CS Sch. Med., Washington Univ., St. Louis, MO, 63110, USA

SO Applied Radiation and Isotopes (1986), 37(7), 599-605

CODEN: ARISEF; ISSN: 0883-2889

DT Journal

LA English

CC 71-6 (Nuclear Technology)

Section cross-reference(s): 8, 34

OS CASREACT 105:160447

AB Three  $^{18}\text{F}$  [13981-56-1] labeled fluoronitroimidazoles were

**prepd.** as potential in vivo markers of hypoxic cells in tumors and ischemic areas of the heart and brain. 1-(2-Nitroimidazolyl)-3-

$^{18}\text{F}$ fluoro-2-hydroxypropanol  $^{18}\text{F}$ fluoro-normethoxymisonidazole) 4, 1-(2- $^{18}\text{F}$ fluoroethyl)-2-nitroimidazole 7, and 1-(2- $^{18}\text{F}$ fluoroethyl)-2-methyl-5-nitroimidazole ( $^{18}\text{F}$ fluoro-norhydroxymetronidazole) 10 were

**prepd.** in av. **radiochem.** yields of <1%, 23% and 15-43%

(8% at the no-carrier-added level), resp., at end of synthesis. The in vivo biodistribution in rats was detd. for each of the  $^{18}\text{F}$ -labeled fluoronitroimidazoles. At 1 and 3 h after administration, the tissue distribution of each of the  $^{18}\text{F}$ -labeled nitroimidazoles was quite uniform

and consistent with that of nitroimidazoles previously studied. The need is suggested for a suitable animal model to evaluate their potential as in vivo markers of hypoxic tissue in the brain.

ST fluorine 18 fluoronitroimidazole; heart fluorine 18 fluoronitroimidazole; brain fluorine 18 fluoronitroimidazole

IT Brain, composition

Heart, composition

Neoplasm, composition

Rat

(synthesis and biodistribution of fluorine-18-labeled fluoronitroimidazoles in)

IT **13981-56-1**, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(labeling with, of fluoronitroimidazoles, biodistribution from)

IT 104613-87-8P 104613-88-9P 104613-89-0P

RL: SPN (Synthetic preparation); PREP (Preparation)

(**prepn.** and biodistribution of, in heart and brain)

IT **13981-56-1**, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(labeling with, of fluoronitroimidazoles, biodistribution from)

RN 13981-56-1 HCAPLUS

CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN **1985:12339** HCAPLUS

DN **102:12339**

TI Tumor localization and therapy with labeled **antibodies** specific to intracellular tumor-associated markers

IN Goldenberg, M. David

PA USA

SO U.S., 9 pp. Cont.-in-part of U.S. 4,361,544.

CODEN: USXXAM

DT Patent

LA English

IC A61K043-00; A61K049-00

NCL 424001100

CC 63-3 (Pharmaceuticals)

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	US 4460561	A	19840717	US 1982-415876	19820908 <--
	US 4361544	A	19821130	US 1980-126261	19800303 <--
PRAI	US 1980-126261		19800303	<--	

AB **Radiolabeled antibodies**, specific to intracellular tumor-assocd. markers for detection, localization and therapy of tumors are **prepd.** for injections. Myeloma IgG from MOPC-21 murine myeloma was labeled with Na-99mTcO4 using SnCl2 in 0.050 HCl soln. or with 111InCl3 after reaction with DTPA carboxycarbonic anhydride. Injections were **prepd.** contg. human serum albumin, phosphate buffer, 0.9% NaCl and labeled antibiotics. Example of tumor localization and tumor therapy are given.

ST **antibody radiolabeled** tumor

IT Neoplasm

(localization of, with **radiolabeled antibodies**)

IT Neoplasm inhibitors

(**radiolabeled antibodies**)

IT **Antibodies**

RL: BIOL (Biological study)

(**radiolabeled**, for tumor localization and therapy)

IT Antigens  
 RL: BIOL (Biological study)  
 (CSAp, **antibodies** to, **radiolabeled**, for tumor localization and therapy)

IT Immunoglobulins  
 RL: BIOL (Biological study)  
 (G, **radiolabeled**, for tumor localization and therapy)

IT Fetoproteins  
 RL: BIOL (Biological study)  
 (.alpha.-, **antibodies** to, **radiolabeled**, for tumor localization and therapy)

IT 14133-76-7, biological studies 14304-79-1, biological studies  
 14390-71-7, biological studies 14390-73-9, biological studies  
 14885-78-0, biological studies  
 RL: BIOL (Biological study)  
 (**antibodies** labeled with metastable, for tumor localization and therapy)

IT 10043-66-0, biological studies 13968-53-1, biological studies  
 13981-51-6, biological studies **13981-56-1**, biological studies  
 13982-78-0, biological studies 14041-48-6, biological studies  
 14119-09-6, biological studies 14158-32-8, biological studies  
 14331-95-4, biological studies 14391-22-1, biological studies  
 14391-96-9, biological studies 14798-12-0, biological studies  
 14834-67-4, biological studies 14900-13-1, biological studies  
 15715-08-9, biological studies 15750-15-9, biological studies  
 15756-62-4, biological studies 15757-14-9, biological studies  
 15758-35-7, biological studies 15765-39-6, biological studies  
 RL: BIOL (Biological study)  
 (**antibodies** labeled with, for tumor localization and therapy)

IT 9002-61-3  
 RL: BIOL (Biological study)  
 (**antibodies** to, **radiolabeled**, for tumor localization and therapy)

IT **13981-56-1**, biological studies  
 RL: BIOL (Biological study)  
 (**antibodies** labeled with, for tumor localization and therapy)

RN 13981-56-1 HCAPLUS

CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

<sup>18</sup>F

L159 ANSWER 24 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1984:592423 HCAPLUS

DN 101:192423

TI **Radiofluorination** with fluorine-18-labeled acetyl hypofluorite:  
 [<sup>18</sup>F]L-6-fluorodopa

AU Chirakal, Raman; Firnau, Gunter; Couse, Joel; Garnett, E. S.

CS Health Sci. Cent., McMaster Univ., Hamilton, ON, L8N 3Z5, Can.

SO International Journal of Applied Radiation and Isotopes (1984),  
 35(7), 651-3

CODEN: IJARAY; ISSN: 0020-708X

DT Journal

LA English

CC 34-2 (Amino Acids, Peptides, and  
 Proteins)

AB AcO<sup>18</sup>F was produced in glacial AcOH from <sup>18</sup>F<sub>2</sub> gas dild. with neon and treated with 3-methoxy-4-hydroxy-L-phenylalanine Et ester-HCl at room temp. for 20 min either in glacial AcOH or in a mixt. of glacial AcOH and CF<sub>3</sub>CO<sub>2</sub>H. After hydrolysis of the reaction products with 48% HBr

L-[18F]6-fluorodopa (4%, EOB, **radiochem.** yield) was isolated by reverse-phase high- pressure liq. chromatog. Despite its low yield, the method may be useful for the prodn. of L-[18F]6-fluorodopa with which the dopamine rich regions of the brain can be demonstrated and with which dopamine metab. can be measured by positron emission **tomog.**

ST fluorine 18 fluorodopa; dopa fluoro fluorine 18; **radiofluorination** methoxyhydroxyphenylalanine acetyl hypofluorite

IT Fluorination  
(**radio-**, of methoxyhydroxyphenylalanine Et ester hydrochloride, with fluorine-labeled acetyl hypofluorite)

IT 84243-94-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(**prepn.** and fluorination by, of methoxyhydroxyphenylalanine ester)

IT 92812-80-1P 92812-83-4P 92812-84-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(**prepn.** and hydrolysis of)

IT 66414-39-9P 92812-81-2P 92812-82-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(**prepn.** of)

IT 75290-48-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(**radiofluorination** of, with acetyl hypofluorite)

IT **13981-56-1**, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with acetic acid)

IT 64-19-7, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with labeled fluorine)

IT **13981-56-1**, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with acetic acid)

RN 13981-56-1 HCAPLUS

CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 25 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN **1982:588255** HCAPLUS

DN **97:188255**

TI Tumor localization and therapy with labeled anti-CEA **antibody**

IN Goldenberg, Milton D.

PA USA

SO U.S., 10 pp.  
CODEN: USXXAM

DT Patent

LA English

IC A61K049-00

NCL 424001000

CC 63-3 (Pharmaceuticals)  
Section cross-reference(s): 8, 9

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4348376	A	19820907	US 1980-126262	19800303 <--
	EP 35265	A2	19810909	EP 1981-101473	19810302 <--
	EP 35265	A3	19820407		
	EP 35265	B1	19860102		

R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE  
 WO 8102522 A1 19810917 WO 1981-US261 19810302 <--  
 W: AU, BR, DK, FI, HU, JP, KP, MC, MG, MW, NO, RO, SU  
 RW: CF, CG, CM, GA, SN, TD, TG

AU 8170341 A1 19810923 AU 1981-70341 19810302 <--  
 AU 556548 B2 19861106  
 JP 57500195 T2 19820204 JP 1981-501163 19810302 <--  
 JP 03006125 B4 19910129  
 AT 17190 E 19860115 AT 1981-101473 19810302 <--  
 ZA 8101384 A 19821124 ZA 1981-1384 19810303 <--  
 IL 62267 A1 19850531 IL 1981-62267 19810303 <--  
 CA 1244344 A1 19881108 CA 1981-372233 19810303 <--  
 DK 8104821 A 19811102 DK 1981-4821 19811102 <--  
 US 4444744 A 19840424 US 1982-414729 19820903 <--  
 AU 8767868 A1 19870430 AU 1987-67868 19870121 <--  
 AU 581555 B2 19890223  
 JP 03141230 A2 19910617 JP 1989-135703 19890529 <--  
 JP 07020887 B4 19950308  
 JP 03141231 A2 19910617 JP 1989-135704 19890529 <--  
 JP 03157337 A2 19910705 JP 1989-135701 19890529 <--  
 JP 03157338 A2 19910705 JP 1989-135702 19890529 <--

PRAI US 1980-126261 19800303 <--  
 US 1980-126262 19800303 <--  
 US 1980-126263 19800303 <--  
 EP 1981-101473 19810302 <--  
 WO 1981-US261 19810302 <--

AB **Radiolabeled antibodies** to carcinoembryonic antigen (CEA) are **prepd.** and used to locate, diagnose and stage CEA-contg. tumors by external photoscanning while achieving increased resoln., convenience and efficiency of operation. Injectible compns. contg. these **antibodies** can be used in tumor therapy. Normal goat IgG was purified by affinity chromatog. on CNBr-linked CEA and labeled with <sup>131</sup>I (20 .mu.g IgG/mCi <sup>131</sup>I) in the presence of chloramine T and NaHSO<sub>3</sub>. Sterile, pyrogen-free injections were **prepd.** contg. <sup>131</sup>I-anti-CEA-IgG (specific activity of 40 .mu.Ci/.mu.g). The localization of tumors by using anti-CEA IgG was demonstrated in humans.

ST antigen carcinoembryonic **radiolabeled antibody** tumor;  
 tumor localization antigen carcinoembryonic **antibody**

IT Neoplasm  
 (localization of, **radiolabeled antibodies** to carcinoembryonic antigens for)

IT Neoplasm inhibitors  
 (**radiolabeled antibodies** to carcinoembryonic antigens)

IT Immunoglobulins  
 RL: BIOL (Biological study)  
 (G, reaction products with **radioisotopes**, as **antibodies** to carcinoembryonic antigens, for tumor localization)

IT Immunoglobulins  
 RL: BIOL (Biological study)  
 (G, monoclonal, reaction products with **radioisotopes**, as **antibodies** to carcinoembryonic antigens, for tumor localization)

IT Antigens  
 RL: BIOL (Biological study)  
 (carcinoembryonic, **radiolabeled immunoglobulin antibodies** to, for tumor localization)

IT 13968-53-1D, reaction products with Igs 13981-51-6D, reaction products with Igs 13981-56-1D, reaction products with Igs 13982-78-0D, reaction products with Igs 14041-48-6D, reaction products with Igs 14119-09-6D, reaction products with Igs 14158-32-8D, reaction products with Igs 14331-95-4D, reaction products with Igs 14378-53-1D, reaction

products with Igs 14391-22-1D, reaction products with Igs 14834-67-4D, reaction products with Igs 14900-13-1D, reaction products with Igs 14913-89-4D, reaction products with Igs 15750-15-9D, reaction products with Igs 15756-62-4D, reaction products with Igs 15757-14-9D, reaction products with Igs 15758-35-7D, reaction products with Igs 15765-39-6D, reaction products with Igs

RL: BIOL (Biological study)

(**antibodies** to carcinoembryonic antigens, for tumor localization)

IT 14885-78-0D, reaction products with Igs

RL: BIOL (Biological study)

(metastable, as **antibodies** to carcinoembryonic antigens, for tumor detection)

IT 14133-76-7D, reaction products with Igs 14304-79-1D, reaction products with Igs 14390-71-7D, reaction products with Igs 14390-73-9D, reaction products with Igs 15765-79-4D, reaction products with Igs

RL: BIOL (Biological study)

(metastable, as **antibodies** to carcinoembryonic antigens, for tumor localization)

IT 10043-66-0DP, reaction products with Igs 15715-08-9DP, reaction products with Igs

RL: PREP (Preparation)

(**prepn.** of, as **antibodies** to carcinoembryonic antigens, for tumor localization)

IT 13981-56-1D, reaction products with Igs

RL: BIOL (Biological study)

(**antibodies** to carcinoembryonic antigens, for tumor localization)

RN 13981-56-1 HCAPLUS

CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

L159 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2003 ACS

AN 1982:552196 HCAPLUS

DN 97:152196

TI Production of cyclotron **radioisotopes** and **radiopharmaceuticals** for medical use

AU Comar, D.

CS Dep. Biol., Serv. Hosp. F. Joliot, Orsay, 91406, Fr.

SO Int. Conf. Cyclotrons Their Appl., [Proc.], 9th (1982), Meeting Date 1981, 645-52. Editor(s): Gendreau, G. Publisher: Ed. Phys., Les Ulis, Fr.

CODEN: 48NOAD

DT Conference; General Review

LA English

CC 71-0 (Nuclear Technology)

Section cross-reference(s): 8, 63, 74

AB A review with 42 refs. Positron emission **tomog.** in conjunction with **radiopharmaceuticals** labeled with e+ emitting **radionuclides** opens the possibility of visualizing in vivo in an atraumatic way fundamental parameters of metab. in man. The main e+ emitting **radioisotopes** 11C, 15O, 13N, and 18F used for labeling **radiopharmaceuticals** (sugars, **amino acids**, fatty acids and drugs) are produced by nuclear reaction involving charged particles accelerated with cyclotrons. Small cyclotrons producing 8 MeV d and 15 MeV p seem optimal for the routine prodn. of these **radionuclides**. Some sp. medical examples are given illustrating the potency of this new tool.

ST positron **tomog radioelement** cyclotron review;

pharmaceutical **radioelement** prodn cyclotron review  
 IT **Radioelements, preparation**  
 RL: PREP (Preparation)  
 (prodn. of, cyclotron for positron emission **tomog.** and  
**radiopharmaceuticals**)  
 IT **Radiography**  
 (laminog., positron emission  
**tomog.**, cyclotron **radioisotope** prodn. for)  
 IT Medicine  
 (nuclear, cyclotron prodn. of **radioisotopes** for)  
 IT Pharmaceuticals  
 (**radio-**, cyclotron prodn. of **radioisotopes** for)  
 IT 12585-85-2P  
 RL: PREP (Preparation)  
 (-emitters, prodn. of, by cyclotron for medical applications)  
 IT 13981-22-1P, **preparation 13981-56-1P,**  
**preparation 13982-43-9P, preparation 14333-33-6P,**  
**preparation**  
 RL: PREP (Preparation)  
 (**prepn.** of, by cyclotron for medical applications)  
 IT **13981-56-1P, preparation**  
 RL: PREP (Preparation)  
 (**prepn.** of, by cyclotron for medical applications)  
 RN 13981-56-1 HCAPLUS  
 CN Fluorine, isotope of mass 18, at. (8CI, 9CI) (CA INDEX NAME)

18F

=> d his

(FILE 'HOME' ENTERED AT 11:22:37 ON 08 MAR 2003)  
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 11:22:57 ON 08 MAR 2003

E GRIFFITHS G/AU  
 L1 126 S E3,E12,E31,E32  
 L2 1 S L1 AND 18F?  
 E IMMUNOMEDIC/PA,CS  
 L3 126 S E6-E21  
 E IMMUNOMED/PA,CS  
 L4 7 S E4-E7  
 L5 1 S L3,L4 AND 18F?  
 L6 1 S L2,L5  
 L7 1 S L1 AND 18(A)F  
 L8 1 S L3,L4 AND 18(A)F  
 L9 1 S L6-L8  
 L10 197 S L1,L3,L4 NOT L9  
 SEL RN L9

FILE 'REGISTRY' ENTERED AT 11:38:30 ON 08 MAR 2003

L11 37 S E1-E37  
 L12 28 S L11 AND F/ELS  
 L13 9 S L11 NOT L12  
 L14 2 S L13 AND SQL/FA  
 L15 1 S L12 AND SQL/FA  
 L16 3 S L14,L15  
 L17 7 S L13 NOT L16  
 L18 3 S L17 AND (GD OR FE OR MN)/ELS  
 L19 4 S L17 NOT L18

L20 3 S L19 NOT UNSPECIFIED  
 L21 27 S L12 NOT L13-L20  
 L22 26 S L21 AND 18F  
 L23 1 S L21 NOT L22  
 E 18F  
 L24 1671 S E3  
 L25 1980 S 18F?  
 L26 309 S L25 NOT L24  
 L27 147 S L26 NOT (TIS OR AYS)/CI  
 L28 22 S L27 NOT NUCLEIC?/FS  
 L29 16 S L28 NOT CCS/CI  
 L30 2 S L29 AND F/MF  
 L31 1645 S L24 NOT L22  
 L32 1 S L31 AND F/MF  
 L33 1632 S L31 NOT (TIS OR AYS OR CCS)/CI  
 L34 24 S L33 AND (PMS/CI OR NUCLEIC/FS)  
 L35 1608 S L33 NOT L34  
 L36 29 S L35 AND PROTEIN/FS  
 L37 7 S L36 AND UNSPECIFIED  
 L38 1579 S L35 NOT L36-L37  
 L39 STR  
 L40 STR L39  
 L41 7 S L40 SAM SUB=L38  
 L42 22 S 18(A)F  
 L43 3 S L42 AND 18F  
 L44 29 S L22,L30,L32  
 L45 29 S L36,L37  
 L46 1615 S L24 NOT L44,L45  
 L47 1578 S L46 NOT ((TIS OR AYS OR CCS OR PMS)/CI OR NUCLEIC/FS)  
 L48 8 S L39 SAM SUB=L47

FILE 'HCAPLUS' ENTERED AT 12:23:44 ON 08 MAR 2003

L49 22 S L45  
 L50 1749 S L44  
 L51 2087 S L47  
 L52 3 S L1,L3,L4 AND L49-L51  
 E POSITRON/CT  
 E E18+ALL  
 L53 4009 S E5,E6,E4+NT  
 E E3+ALL  
 L54 10500 S E4,E5,E3+NT  
 E E2+ALL  
 L55 1182 S L49-L52 AND L53,L54  
 L56 52 S L49-L52 AND ANTIBOD?/CW  
 L57 5 S L49-L52 AND HAPTEN?  
 L58 2 S L49-L52 AND (MAB OR BSMAB)  
 L59 66 S L49-L52 AND ANTIBOD?  
 L60 66 S L56-L59  
 E HAPTEN/CT  
 E E7+ALL  
 L61 4088 S E3  
 L62 437 S E7  
 L63 5 S L49-L51 AND L61,L62  
 L64 66 S L60,L63  
 L65 233 S L49-L51 AND (PROTEIN OR ?PEPTIDE?)  
 L66 370 S L49-L51 AND (PROTEIN? OR PEPTIDE? OR AMINOACID? OR AMINO ACID)  
 L67 50 S L66 AND L60  
 L68 32 S L60,L67 AND L53-L55  
 L69 0 S L60,L67 AND RADIO?/SC,SX  
 L70 57 S L60,L67 AND RADIA?/SC,SX  
 L71 24 S L49-L52 AND IMMUN?/SC,SX  
 L72 71 S L60,L71  
 L73 54 S L72 AND L65,L66

L74 26 S L73 AND L53-L55  
L75 45 S L73 AND RAD1?/SC,SX  
L76 50 S L65,L66 AND L60  
L77 21 S L76 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)  
L78 23 S L52,L77  
L79 48 S L60,L67-L76 NOT L78  
L80 15 S L79 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)  
L81 38 S L78,L80  
L82 32 S L81 AND (F18 OR 18F OR 18(A) (F OR FLUORIN?))  
L83 6 S L81 NOT L82  
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 12:38:27 ON 08 MAR 2003

L84 4 S E1-E4  
L85 1 S L84 AND F/MF

FILE 'HCAPLUS' ENTERED AT 12:39:00 ON 08 MAR 2003

SEL HIT RN L82

FILE 'REGISTRY' ENTERED AT 12:39:04 ON 08 MAR 2003

L86 48 S E5-E52  
L87 21 S L86 NOT L22,L85  
L88 1 S L87 AND C8H6FN3O  
L89 27 S L86 NOT L87

FILE 'HCAPLUS' ENTERED AT 12:43:08 ON 08 MAR 2003

L90 2 S L88

FILE 'REGISTRY' ENTERED AT 12:45:46 ON 08 MAR 2003

FILE 'HCAPLUS' ENTERED AT 12:47:47 ON 08 MAR 2003

L91 1747 S L89  
L92 1438 S L91 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)  
L93 3 S L91 AND L1-L10  
L94 22 S L92 AND (HAPTEN? OR ANTIBOD? OR MAB OR BSMAB OR FAB OR F AB)  
L95 29 S L92 AND (PROTEIN OR ?PEPTIDE?)  
L96 49 S L92 AND (PROTEIN? OR PEPTIDE? OR AMINO ACID? OR AMINOACID?)/S  
L97 28 S L92 AND (PROTEIN? OR PEPTIDE? OR AMINO(L)ACID#)/CW  
L98 59 S L94-L97  
L99 4 S L18 AND L98  
L100 10 S (?THIO? OR ?SULF? OR ?SULPH?) AND L98  
L101 15 S L98 AND L53-L55  
L102 51 S L98 AND RAD1?/SC,SX,CW,BI  
L103 14 S L98 AND DIAGN?  
L104 54 S L93,L99-L103  
L105 7 S L98 NOT L104  
L106 61 S L104,L105  
L107 61 S L93-L106  
L108 40 S L107 AND PREP?  
L109 57 S L107 AND (18F OR F18 OR 18(A) (F OR FLUORIN?))  
L110 61 S L107-L109

FILE 'REGISTRY' ENTERED AT 12:55:57 ON 08 MAR 2003

L111 25 S L22 NOT F/MF

FILE 'HCAPLUS' ENTERED AT 12:56:22 ON 08 MAR 2003

L112 1 S L111  
L113 60 S L110 NOT L112  
L114 3 S L93,L112 AND L94-L110,L112,L113  
L115 58 S L113 NOT L114

FILE 'HCAPLUS' ENTERED AT 12:57:38 ON 08 MAR 2003

FILE 'REGISTRY' ENTERED AT 12:59:24 ON 08 MAR 2003

L116 1 S L22 NOT L111  
L117 4 S F/MF AND (18F OR F18 OR 18)  
L118 4 S L116,L117

FILE 'HCAPLUS' ENTERED AT 13:00:18 ON 08 MAR 2003

L119 1749 S L118  
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 13:02:59 ON 08 MAR 2003

FILE 'HCAPLUS' ENTERED AT 13:03:38 ON 08 MAR 2003

L120 93 S L119 AND (HAPTEN? OR PROTEIN OR ?PEPTIDE? OR AMINOACID OR AMI  
L121 25 S L119 AND (PROTEIN? OR PEPTIDE? OR AMINO ACID?)/SC, SX  
L122 43 S L119 AND (ANTIBOD? OR MAB OR BSMAB OR FAB OR F AB)  
L123 46 S L119 AND L18  
L124 210 S L119 AND L53,L54  
L125 269 S L119 AND (?TOMOGRAPH? OR PET)  
L126 964 S L119 AND RADI?/SC, SX, CW, BI  
L127 120 S L124-L126 AND L120-L123  
L128 64 S L127 AND (PY<=1997 OR PRY<=1997 OR AY<=1997)  
L129 63 S L128 NOT L114  
L130 40 S L129 AND PREP?  
L131 23 S L129 NOT L130  
SEL DN AN 1 2 5 6 10 12 14 15 16  
L132 9 S L131 AND E103-E129  
SEL DN AN L130 5-7 11 16-21 23 24 27 30 31 34 35  
L133 17 S L130 AND E130-E180  
L134 29 S L114,L132,L133

FILE 'REGISTRY' ENTERED AT 13:20:45 ON 08 MAR 2003

L135 1 S L24 AND C2HFI2  
L136 1 S L24 AND C2H2FI  
L137 1 S L24 AND C2FI3  
L138 3 S L24 AND C3H3FI2O2  
L139 1 S L138 AND ESTER  
L140 1 S L24 AND C3H4FIO2  
L141 1 S L24 AND C2H2FI2NO  
L142 1 S L24 AND C8H5BR2FO  
L143 6 S L135-L137,L139-L141  
L144 0 S L143 NOT L12

FILE 'HCAPLUS' ENTERED AT 13:25:07 ON 08 MAR 2003

L145 1 S L135-L143 AND L1-L10  
L146 3 S L145,L114  
L147 3 S L146 AND L1-L10,L49-L83,L90-L110,L112-L115,L119-L134,L145,L14

FILE 'REGISTRY' ENTERED AT 13:27:36 ON 08 MAR 2003

FILE 'HCAPLUS' ENTERED AT 13:27:53 ON 08 MAR 2003

SET SMARTSELECT ON  
L148 SEL L10 1- RN : 844 TERMS  
SET SMARTSELECT OFF

FILE 'REGISTRY' ENTERED AT 13:28:01 ON 08 MAR 2003

L149 844 S L148  
L150 228 S L149 AND SQL/FA  
L151 189 S L150 AND PROTEIN/FS  
L152 10 S L151 AND 8/SQL  
L153 4 S L152 NOT MULTICHAIN/NTE  
L154 6 S L152 NOT L153  
E GYWGKGYW/SQEP  
L155 1 S E3

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      E CYWGCGYW/SQEP
      SEL RN
L156      0 S E1/CRN

      FILE 'HCAPLUS' ENTERED AT 13:33:14 ON 08 MAR 2003
L157      1 S L155
L158      1 S L157 AND L1-L10,L49-L83,L90-L110,L112-L115,L119-L134,L145-L14

      FILE 'REGISTRY' ENTERED AT 13:34:13 ON 08 MAR 2003

      FILE 'HCAPLUS' ENTERED AT 13:34:30 ON 08 MAR 2003
L159      26 S L134 NOT L147
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